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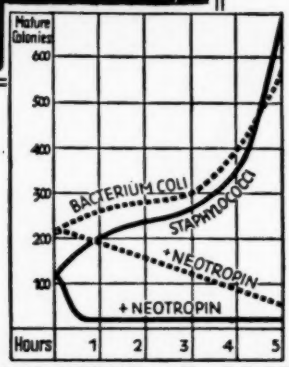

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It is an ancient and fundamental problem of all institutions to combine security with progress, tradition with discovery. Security without progress is stagnation and decay; progress without security leads to anarchy and ruin.

Orthodoxy is defined as the holding of right, or accepted, views. The word is applied to religion, morals, architecture, the arts, car design—in fact, to any matter of public interest; the private concerns of an individual can hardly be orthodox. In matters affecting the many, a generally accepted standard of orthodoxy is necessary, from which standard any departures are judged. Such departures are termed heterodox; they are continually being made in all directions, and those which stand the test of time, in time become orthodox.

Orthodoxy implies a certain degree of doubt—the possibility of another opinion. In this way it resembles truth. A statement which is axiomatic is not orthodox; it is rarely said to be true, but, rather, accurate. A street plan, an anatomical description, a sum in arithmetic, are accurate rather than true, true rather than orthodox. Orthodoxy and truth are both matters of belief, and what is true and what is orthodox is the belief of the great majority. But to say that a thing is orthodox expresses no view as to the value of a contrary tenet; to say that it is true implies that any other opinion is, in the view of the speaker, untenable.

Tradition is, or should be, the accumulated wisdom of the past—wisdom rather than knowledge, because it includes elements not to be learned from books, but from the experience of life, and, therefore, not to be conveyed by books, but only by experience. True education is *arranged* experience; we do not say to our students: "Take a limb and see what you can find in it," but, "Reflect these structures in this order and you will, or should, find such and such vessels, nerves, or muscles."

Orthodoxy represents chiefly the wisdom and learning of the past and it provides the security of that wisdom. An orthodox moralist, scientist, or surgeon can be trusted to have as much learning as the last generation of his craft. This may seem a small commendation, but in real life, and especially in medicine and morals, it is, in fact, a great one, because over much the greater part of the globe there is no assurance to the public that a physician or a moralist has any learning at all. A man may set up as a preacher or a doctor of medicine without knowing as much of either art as an African witch-doctor.

This, then, is the value of orthodoxy and the machinery of examinations, degrees, and associations which upholds it. This machinery makes certain that a doctor of divinity or of medicine does at least know something of his job. In practice, the public has no other assurance than the label provided by the degree—a degree granted by a committee of the orthodox for a knowledge of orthodox practice. I am not using the word orthodox in any derogatory sense, but as an exact description of the truth, because orthodoxy means, in this connexion, all that which is approved by the committee of experts responsible for the standards; what is heterodox this year may be orthodox next.

There is a much greater need for orthodoxy in surgery than in politics or religion, for the subjects of State or church share with others disabilities or dangers not usually very immediate, whereas a sick man bears an anxiety and responsibility and incurs a danger which is not shared and cannot be put off. He has his back to the wall.

Put yourselves in the place of such a man and suppose that there is no established doctrine of medicine or orthodoxy. One friend tells him to go to so-and-so, another to someone else, and he has no better reason than opinion to choose one rather than the other; nothing better than opinion, because nothing better exists. To him and his friends surgery and medicine are mysteries deeper than Hebrew or English law. It would take him years to acquire sufficient knowledge to judge in his own case; and notice, also, that (always supposing there is no orthodoxy, no established machinery of tests, education, degrees) such a man would not even know where to go in order to give himself the necessary education. He must risk being swindled by teachers almost as ignorant as himself, or by prejudiced pedants a century behind the times.

Everyone knows that this was actually the case of the sick man in surgery not so many years ago, and that it still is the case in a great part of the world. It is because of the misery and confusion caused by the absence of any orthodox standards that they were set up and maintained, and are nowadays defended.

True, they are not so much valued to-day by the laity, because they have no experience of the suffering produced by their absence, but they are strongly maintained and defended by surgeons and physicians, who are well aware, by experience as well as the history of their art, of their value to the whole community. Every medical man has, at some time or other, to patch the sorry work of some quack, if it can be patched; and a very little imagination can tell him what was the state of the sick before surgeons and physicians were obliged to learn something about their profession. In fact, this experience is apt to make him too much the supporter of orthodoxy, too much the enemy of new suggestions, especially from outside the fold.

The Heterodox on Trial.

This leads us directly to the centre of the problem: how to devise machinery for testing the heterodox and for admitting the valuable parts of it into the body of the orthodox. Failure to solve this problem—which is as old as society itself—has destroyed countless kingdoms, churches, and orders. If no machinery exists, as in the case of the old French monarchy, there follows a decay, and the disaster called "revolution," which destroys the good of sound tradition with the bad of self-satisfaction. If too much machinery exists, as in the case of the old Roman religion, which coöpted every new god as soon as he was proposed, tradition is swamped and society finds itself without any standards at all.

This problem, which has proved so difficult to

* The substance of an address delivered to the Chichester Clinical Society.

statesmen and churchmen, is even more difficult to surgeons, on account of the special nature of their craft. On the continent the system of large professorial clinics, where the word of one man is law over decades, while assistants grow old and fixed in his service, tends to the perpetuation of local tradition and the cramping of true originality as against mere showmanship. In America, on the other hand, the orthodoxy of past generations is often wrongly condemned on insufficient grounds; treatment is largely a matter of fashion, and each innovation is accepted as an advance, till a newer method displaces it.

How, then, is the heterodox, the new, to be tested and admitted into the body of the orthodox, the old and tried? In practice, of course, new treatments, new discoveries, are continually tested and admitted by a dozen different routes; but nearly always, be it observed, from orthodox sources—that is to say, doctors, already proved orthodox, having made discoveries in their practice, bring them to the attention of their colleagues and pupils, either by writing about them, or teaching them, and after a general discussion, carried on for some years in the medical press and among medical men, they are either accepted and enter orthodoxy by way of the accepted text-books, or are dropped.

OBJECTIONS TO THE PRESENT SYSTEM OF TESTING.

The objection made against this system as it works is that it does not work well. Critics point out that it is the original system, as old as medicine itself, which goes back (according to one suggestion) to a period before the appearance of man; that it is slow, erratic, uncertain. One discovery, by a stroke of luck, may catch the eye of an authority and be quickly tested, approved, and taught; another may be overlooked for years, or forgotten altogether.

To the first objection—that the system is old and unbusinesslike, or, as one might say, no system at all—the answer is that it exists, like the British Constitution, only on sufferance, and *dum bene gesserit*. If anyone can devise improvements in it, or a better one, it will be instantly suspended by that fact. To the second objection—that it is uncertain—it may be answered that it is nowadays much less so than it used to be, simply because it is much easier for the medical researcher to get his results and suggestions published, and because the profession, as a whole, is much more receptive of new ideas, much more critical, in the true sense of the word, and less dogmatic.

But the real and unanswerable defence is that, in the present circumstances, there is no other imaginable that could fulfil the necessary conditions. Let us recapitulate these circumstances and conditions. The circumstances are a lay world, ignorant of medicine, of scientific method and, to a very large extent, of the weakness of the uninformed human judgment, against which scientific method has devised its mechanical safeguards—that is to say, a vast mass of population ready to be deceived by any specious lie or self-deceiving wonder-worker; and among this immense gullible crowd a comparatively small number of doctors, surgeons, and researchers, working singly or in groups, but divided from each other not only by space and opinion but also by language and great differences of outlook and education.

It might be suggested that surgery, like statecraft, requires an international headquarters, like the League of Nations, or, rather, the Labour Bureau at Geneva; a central office, where all new discoveries would be demonstrated and all records filed. But anyone who understands the complicated nature of our problems will know what such an institute, to be effective, would cost in buildings and staff, with what suspicion and slights it would have to deal, and, also, how easy it would be for it to earn suspicion and deserve contempt. For it would be surrounded by the pitfalls that bureaucracies dig for themselves—dogmatism, red tape, the superiority complex; in fact, those very perils of which dogmatic orthodoxy itself is the begetter. It would become a Royal Academy of Medicine.

But even if we suppose that such an institution could be devised to avoid academism, we have to admit that it does not exist yet, and is not likely to do so for at least as long as the League of Nations is regarded by half the world as a confidence trick.

So that we are obliged, willy-nilly, to continue in the present system, however unsystematic, and, returning to the problem, we find it to be this: how to improve the present system.

EDUCATION AND SCIENTIFIC ADVANCE.

Now, it seems to me that all institutions, all systems, depend chiefly on the men who work them. Give the British Constitution to Italy, Spain, Poland, America, Germany, Greece, Bengal, and you will find in a year or two that it has changed into something so entirely different that the very Speaker would not recognise it. The reason is that Italians, Poles, Greeks, and Hindus have different ideas; their environment, their history—in a word, their education is different.

If we want to know the cause of that dogmatism which assailed Lister with a bitterness and injustice which appear so inexplicable to us, we have to ask: what kind of men were they who called themselves scientific; what kind of education and environment made them what they were? And we see that the environment was one of conservative reaction; the education was empirical and dogmatic. They were told: "Do this! Do that! This is the way to operate for stone; this tumour is inoperable." They were trained as craftsmen, and not as scientific men.

For the mark of the scientific man is an inquiring and independent spirit. He takes nothing for granted; he is ready for the most surprising development, the most bizarre suggestions, and he brings to both—the orthodox that is accepted and the heterodox that has been proposed—the same critical judgment and the exact methods of practical test and trial.

It seems to me, therefore, that the surest and, perhaps, the only means of combining the security of tradition with the life of progress is by the education of every medical student in the true scientific character. Let it be impressed on each from the beginning of his training that the doctor is not only a servant of the public, bound by the oath of Hippocrates, but a scientific man—one of the same profession with Aristotle, Boyle, Darwin, as well as with Arbuthnot and Lister—and that he cannot default in either capacity without injury to the other and danger to the honourable fame of his calling. Let his orthodoxy be that of Newton and Einstein and we need not fear for the progress of medicine.

The Outlook of To-day.

I have dwelt thus far upon the abstract problems of orthodoxy and heterodoxy—problems which are more philosophical than surgical—and must pass on to consider briefly how these conclusions affect our outlook upon the questions that confront us to-day.

A teacher of the last generation asserted, with considerable justification at the time, that the discoveries of the scientist become incorporated only after considerable delay in the practice of the clinician. It is idle to pretend that there is any failure in coördination between research and practice to-day. The wards and the laboratories work hand in hand; physician and biochemist, surgeon and physiologist, radiotherapist and physicist, bring to each other their problems for solution, their discoveries for practical test. Every branch of our art has been brought, within the last few years, to a higher degree of perfection by methods which have sprung from patient quest in research departments; diagnosis has been enriched by cholecystography and intravenous pyelography, prognosis by tests for the estimation of renal, hepatic, and cardiac function; treatment by such remedies as insulin in diabetes and gas gangrene serum in paralytic ileus. Nor is it only from the laboratories that additions to orthodox teaching have been culled; cardiology has been rebuilt upon the work of a general practitioner, while orthopædic surgery has taken manipulative methods from the bone-setter to employ them in its everyday practice.

Medicine has never been more scientific in its training, more catholic in its scope, or more open in its judgment than at the present time. Honest heterodoxy has no difficulty in obtaining a hearing, nor, if it can prove a case, in securing adoption. Rather, I think, are we too easily wooed, too susceptible to the blandishments of the new. The last five years have seen many examples of this mistaken eagerness. Heterodox methods, honest enough and sponsored by men of repute, have been adopted and widely practised, only to be found worthless after an extended trial.

UNWISE ACCEPTANCE OF NEW METHODS.

The operation of lymphaticostomy, exposure and section of the thoracic duct in the neck after ligature of its junction with the subclavian vein with the object of draining away toxins and bacteria from the abdominal cavity, was introduced in 1923 for the treatment of septic peritonitis. The method appeared to hold out the promise of lessening a mortality that had remained undiminished, while that of other acute abdominal emergencies had been reduced tenfold; it was tried and failed, and the very reasoning upon which it was based was proved to be unsound.

A year later appeared the pioneer work of Hunter on the sympathetic innervation of striated muscle, and Royle's now classical papers upon the treatment of spastic paralysis by the operation of ramisectomy. No surgeon who read these remarkable articles doubted that a new weapon in the treatment of one of the most common and crippling diseases of childhood had been placed in our hands, and many adopted and practised the methods with sincere enthusiasm and confident faith. But faith soon wavered; enthusiasm gave way to doubt, and doubt to profound disappointment. The results obtained by orthopædic surgeons in every country except Australia and the outcome of cases operated upon by Royle himself in England and America have been disappointing; to-day the physiological basis itself of the operation stands discredited.

Periarterial sympathectomy was introduced by Jaboulay in 1899 for the treatment of perforating ulcers of the foot, but is more often associated with the name of Leriche, who has advocated it as a cure not only for gangrene but for chronic arthritis and many other conditions affecting the extremities. I may be premature in citing periarterial sympathectomy as another heterodox method which has been avidly accepted by our profession without sufficient scrutiny of its credentials, and has proved unprofitable; but I know no discriminating surgeon who, recovered from his delight at a few apparent successes, has persisted in the method, nor any disinterested investigator of series of cases who supports it. Further, the physiological investigations of Woollard make it clear that there is no logical reason why the operation should succeed.

PROGRESS THROUGH FAILURE.

Yet to Leriche and sympathectomy, and in far greater measure to Royle and the operation of ramisectomy, we owe the opening of a new page in surgical history which is only now being written—the surgery of the sympathetic system. Though valueless in the treatment of spasm in voluntary muscle, ramisectomy, and gangliomectomy which succeeded it, have proved very successful in the treatment of severe Raynaud's disease, and of occasional value in thrombo-angiitis obliterans—the results in this disease depending from the degree of vasomotor spasm in the unoccluded arteries; ganglionectomy has also given good results in Hirschsprung's disease.

Palliative Operations.

Disorders that arise out of the conditions of modern civilised life can only be treated palliatively, since their cause cannot be eradicated except by a return to barbarism, a step some might approve, but few would advocate. No group of diseases has evoked a greater number of suggested remedies or provided a readier opening for heterodox ones; for where successive methods have failed, unschooled enthusiasm is the more prone to grasp at any that are new and credible. I would mention more especially in this connexion the right-sided abdominal failures, intestinal stasis, coloptosis, cæcal distension, and all the troubles in the right iliac fossa for which the appendix is so often blamed without reason and removed without benefit. These are maladies of civilisation, maladies of early adult life, and preponderatingly maladies of women. They are the outcome of a failure of one or more of the many factors which combine to keep the large bowel working normally under normal conditions—factors mental, muscular, and dietetic. In their earlier stages, before organic changes have taken place in the colon, before its walls have changed their structure and lost their contractile power and become fixed in some faulty place or posture by adhesions, they can be alleviated and even cured by attention to these factors. Many require more radical treatment; the old mechanism is beyond repair and a new one must be constructed.

These chronic right-sided failures are very real problems, familiar to every practitioner and surgeon. The clinical picture which they present has been described by Lane with an accuracy and completeness that has left nothing to be altered or added by subsequent writers. But the record of their treatment by operation must give cause for profound dissatisfaction to any thinking surgeon. Probably more fortunes have been made and reputations lost in this field than in any other.

OPERATIONS ON THE COLON.

The operations which have been described and practised for the treatment of right-sided colonic failures are many, but they fall, roughly, into two categories—those of fixation and those of excision. Both are attractive, for they appear to get to the root

of the trouble, and operations of each type have been widely accepted and even incorporated into orthodox teaching; both are equally unsound. The operations for fixation are wrong because they run counter to the general orthopædic principles governing the action of hollow muscular tubes—that they must be free to alter their position and diameter as waves of peristalsis pass along them. The primary fault in this group of diseases is not a failure in fixation, but a failure in propulsive power in the wall of the colon. Wide variations in the attachments of the large bowel, both in the direction of greater peritoneal fixation than the average type and of incomplete fixation, are found in the fœtus and demonstrated by radiography and at laparotomy in individuals who have never had any symptoms attributable to their presence. Failure is due to a deficiency in tone both in the wall of the colon itself and in the postural tone of the abdominal wall which supports the viscera; and while this deficiency may react earlier and to a more marked degree upon those individuals in whom the peritoneal attachments of the bowel are incomplete or abnormal, it will cause trouble sooner or later in all. Where tone is deficient, no artificial methods of fixation will hold the colon against its tendency to prolapse; indeed, by interfering with the wall of the bowel such operations are more likely to hinder still further its propulsive power and convert it into a passive bag dragged down by contents which it cannot expel. The occasional successes of colopexy are due less to the operation itself than to the careful régime and re-education of the abdominal muscles which has succeeded it. Failures are prevalent.

Far more disastrous are the failures of colectomy. For as long as five years after the operation the patients may improve, but after that period they deteriorate steadily, till finally they present the picture of habitual ill-health, a warning to all of us that we cannot scrutinise too jealously the basis of any procedure that is presented to us before we finally admit it to orthodoxy. Complete colectomy is dead; in its time it has probably done more harm than any experiment in the history of surgery. Hemicolectomy remains, but it is only slightly less disastrous. In so far as these operations remove a damaged and useless structure, they are well-founded, but in so far as they destroy the normal mechanism of digestion, they are unscientific. Intestinal digestion is controlled by the ileocæcal sphincter in a precisely similar manner to that in which gastric digestion is controlled by the pylorus. The sphincter remains closed till intestinal digestion is complete, the while movements of segmentation mix up the chyme, and absorption of digestible matter continues. After some few hours the sphincter relaxes, admitting what remains into the cæcum; this residue contains a minimum of nutritive material. By colectomy this natural mechanism is abolished. The contents of the small intestine, as yet undigested, pour into the remaining colon, and their value is lost to the body; the putrefactive bacteria of the colon enter the ileum where they find abundant material in which to multiply, and where their toxins are readily absorbed, owing to the abundant blood-supply and specialised absorptive function of the mucosa in this region. In the loss of the ileocæcal valve can be found the explanation of the ill-results of colectomy.

Removal of an unhealthy colon is justifiable in the more severe type of case, but the degenerative changes which have been described are usually most marked in, or limited to, the proximal colon, where the evils of stasis are intensified by the action of gravity. Total colectomy is, therefore, an unnecessary sacrifice of useful tissue, and hemicolectomy is preferable. But the destruction of the mechanism of digestion can be justified on no grounds but the necessity to eradicate a focus of cancer. The symptoms which follow on the operation—anorexia, sleeplessness, anæmia, loss of weight, and nervous instability—all point to a condition of chronic intoxication, which cannot be relieved, nor its further progress arrested. Three of these chronic right-sided failures have come into my hands within the last year; patients in whom all medical measures, carefully ordered and conscientiously executed, had failed to give any relief. In these three patients I have performed a new operation suggested by Dr. A. F. Hurst—hemicolectomy, with transplantation of the ileocæcal sphincter, carrying its nerve- and blood-supply intact, into the transverse colon. The effect of this operation is to leave an alimentary canal in which intestinal and colonic digestions are still segregated by the normal sphincteric mechanism, but in which the damaged colon has been removed, leaving a large intestine healthy, of sufficient length, and aided throughout by gravity. The immediate results in these three cases have been excellent.

Unjustifiable Heterodoxy.

Closely allied to the subject of honest but mistaken heterodoxy is that of stupid heterodoxy—the introduction of new ideas that are merely the resuscitation of former failures, or are based upon wrong or insufficient reasoning. In my reference files I have a folder, the "Chamber of Horrors," in which communications of this nature are kept. One surgeon describes a case in which he performed ileocolostomy, closing both ends of the large intestine, and reports that the colon slowly distended till it occupied the greater part of the abdomen, and the patient finally died; no one who had read the chapter on exclusion in any text-book of operative surgery would have performed this operation, or, having performed it, would have parted with the secret. Another writes of the operative treatment of fractures, illustrating his thesis with radiograms showing all the faults against which Lane cautioned his hearers in 1910. A third publishes a new operation for gastric ulcer, which is none other than the old one of gastro-jejunostomy with entero-anastomosis, which was abandoned at the beginning of the present century because it was followed so frequently by jejunal ulceration, and which stands condemned by the recent experimental work of Mann.

SURGERY OF THE STOMACH.

It is in the subject of gastric operations that callow heterodoxy is most rife, for the stomach will stand almost anything and almost any operation will do good for a time. I would suggest that all those operations that aim at making an anastomosis between the stomach and the duodenum—gastro-duodenostomy, side to side or end to side, pyloroplasty, Finney's operation, duodenectomy, Billroth I gastrectomy, and Schœmaker's gastrectomy—are based upon unsound physiology and are unprofitable in practice.

Two arguments support them—that the new opening is at the site of the pylorus, and that the food leaving the stomach enters that part of the small intestine that is most used to the presence of an acid medium. The first ignores the essential fact that the pylorus is a sphincter acting under nervous control and that, if it be destroyed, no stoma, wherever placed, can assume its functions. Such a stoma is an

artificial opening, emptying mechanically, and that stoma will be best which can be made most easily and perfectly in every case and which remains free to move with the movements of the surrounding viscera and the contractions of its component parts. The pyloric end of the stomach and first part of the duodenum are poor surgical material, thick, friable, and vascular; they must be mobilised for approximation, and are pulled from their natural line and under tension after suture; they are not readily controlled by clamps. When an anastomosis is made between them bleeding is troublesome at the time, leakage is not uncommon afterwards, and the finished operation is seldom a really satisfactory craftsman's job.

The second argument is no more than an unsupported statement. The chyme, after leaving the stomach, hurries with great rapidity through the duodenum and upper loops of the jejunum, so that there cannot be any appreciable difference in the reaction of the contents of the first few feet of intestine below the ampulla of Vater. Recent evidence suggests that recurrent ulceration is as common, or more common, after gastro-duodenostomy than after gastro-jejunostomy, and the results less satisfactory. The older operations of posterior gastro-jejunostomy and the Polya type of gastrectomy have a sounder basis, satisfy more nicely the demands of the surgeon-craftsman, and yield results that are as good as any in surgery.

Heterodoxy and Originality.

Since an enlightened medical public is so willing to embrace any new doctrine which is placed before it with the appearance of sincerity, heterodoxy may prove an easy way to notoriety, if not to fame. The reformer and the revolutionary are heterodox. We are, therefore, prone to accept the converse proposition—that heterodox opinions denote the reformer. Those who would acquire an easy reputation for originality need only trade upon this common fallacy, to be certain of a considerable following. Such spurious heterodoxy may be entirely unscientific and frankly dishonest, as cheiropractic, or the Abrams box. It may be of questionable scientific parentage and of doubtful honesty, as is the case with rejuvenation and some of the surgical cures for deafness More often the method is sound enough and honest enough, and only the proprietary relationship of its sponsor is in question. As in the world of industry, the patentee often dies unhonoured while some commercial magnate waxes rich upon the proceeds of his invention, so in science when advances are made the glory and the profit of them goes to him who is first in the market-place. Within the last few years the injection treatment of varicose veins and the renewed public interest in radium have provided such opportunities for the more alert to adopt methods in whose origin they had no part, to write about them in season and out of season, in the medical press and in the *Times*, to rise from overdrafts to affluence, and from comparative obscurity to international reputations.

Heterodoxy is the expression of initiative, ambition, originality, energy; a native orthodoxy the outcome of the reverse qualities. The heterodox mind craves for individual employment, with the chances of fresh fields to conquer, for victory or glorious failure; the orthodox mind seeks safety, a settled future, regular hours, and a certain reward. Therefore, specialisms are founded by the heterodox, but recruited from the orthodox; after the first generation they tend to become mutual admiration cliques, and to lapse into impenetrable standardisation. They decay. The strata of geology are loaded with the remains of extinct specialists who concentrated all their energies on adapting themselves to one particular aspect of their environment; the environment changed and they, being unable to fit themselves to new circumstances, have perished and given way to a stock that meets conditions as they arise.

Specialisation is of the greatest value to surgery, not because each branch studies some small subject with greater intensity, but because each brings a fresh outlook, a new school of surgical thought, which can be applied with benefit to the rest of the art. Plastic surgery has raised the ideal of meticulous care in the handling of tissues; orthopædic surgery stands not so much for the correction of deformity as for a vision dominated by the study of physiology and the respect of function. Such specialisms are born in the vision of some man, or group of men. They rise, like waves upon the ocean, because some driving force raises the matter around it for a time above the surrounding level; like waves, they should agitate the common body while they are moving and be taken back into its substance when the driving force is spent. Every surgeon should study the leaders of plastic surgery and return to his own work kindled with a new vision of technical perfection. The gospel of orthopædics should animate more than the surgery of crippledom. For specialisms that remain apart tend to a dead and static perfection, having the semblance but not the reality of advance, like waves on the sand of the desert.

The Ideal Attitude.

And now I would return to the main subject of my discourse. Fashions change, but truth is eternal, and what has been accepted by successive generations must be founded upon truth. Therefore, the main body of surgical science and thought is orthodox, and heterodoxy concerns rather the form of its expression. To quote Sir Thomas Browne: "There is yet, after all the Decrees of Councils and the niceties of the Schools, many things untouch'd, unimagin'd, wherein the liberty of an honest reason may play and expatiate with security and far without the circle of an Heresie."

Nor need we be ashamed of our orthodoxy, for orthodoxy accepted for purposes of smooth working indicates a stable and reasoned organisation. The good surgeon is orthodox in his teaching and his public utterances; heterodox in his innermost conscience. Text-books must be orthodox; monographs should be heterodox. We should only beware of an orthodoxy that is accepted without thought and without question, for that indicates an extinct faith.

The fetters of orthodoxy are ready to close round all of us, especially if we work at a teaching hospital. We cannot feed the young upon those untried enthusiasms that mean more to us than all the books in our library, for the ideas which we teach them now, however true they may be, however acceptable to future generations, must pass the scrutiny of the most orthodox of mankind—the examiners in surgery. We are happy if we can keep our faith while we serve as priests in the house of Rimmon. Orthodoxy is with us everywhere—at public discussions, at the meetings of our surgical associations, at the annual gatherings at which we congregate. It is only after the tumult and the shouting have died, when the captains and kings of surgery have departed in their expensive cars and some of the younger spirits gather round cocktails, that men really speak their mind on

surgical topics. Here lies the great value in the advancement of surgery of the small and intimate clubs, like your clinical society, for it is in the exchange of theories labouring for expression, the outpouring of enthusiasms as yet inarticulate to a fellow-enthusiast, that new ideas are born.

A barge making its way up the Thames from London to Oxford does not proceed at a uniform rate. At times it is moving forward; at times it remains stationary in a lock; but while it is in the lock, water is flowing in from the higher streams, till finally a new level is reached and a fresh advance is possible. Thus, by alternate pause and progression, it finally mounts to the highest levels. So the advance of knowledge must be wayward: the locks are periods of orthodoxy; the advances, of heterodoxy.

For guidance we have the advice of St. Paul: to prove all things and hold fast that which is good. And the spirit of this counsel should pervade our attitude to surgery; the spirit, and not the letter, for if we try all things, we will do a great deal of harm to our patients in finding that which is good. Ingenuity, courage, and unconventionality are admirable qualities in a surgeon so long as they are not practised on others. Therefore, before we try any new idea, we must first ask ourselves: "Is it reasonable? Has it a scientific basis? Is it safe enough to try on a patient, or should I first try it on myself, or in the laboratory? Has it, or anything similar, been done before, from which I can judge the chances of success or failure? If it has failed in the past, was failure due to a fault inherent in the method, or because some factor making for safety or success was unknown to the man who carried it out?"

If the answers satisfy us, we may proceed to practical tests: if these tests confirm our faith, we must still convince our fellows. We shall have our reward if we have been able, even in small measure, to add to the heritage of orthodox surgery.

THE TREATMENT OF FUNCTIONAL ANOREXIA.

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Loss of appetite is a symptom commonly met with in ill-health. Thus there is, to quote examples, generally a distaste for food in the acute stages of a febrile illness, at an early stage in cancer of the stomach, also in chronic renal disease, alcoholism, and advanced tuberculosis. Anorexia is, however, not always a symptom of organic disease. It may occur as a primary and often the sole complaint in persons who are simply "run-down" in health or in others who are passing through acute anxiety or mental or physical strain. Lauder Brunton [1] noted the bad effect which financial worry has on the digestion and appetite of business men, and in these days of industrial depression such influences require no stressing. In young women, again, a disappointment or an emotional shock is often the starting-point of a failure of appetite. Those engaged continually in the preparation of food for others and leading an indoor life are also apt to lose their appetite and suffer accordingly. To the type of anorexia which is not necessarily associated with organic disease the term "functional" may be applied.

Functional anorexia is usually mild and temporary, but in the more persistent forms it may be overlooked by relatives and friends alike until the signs of obvious undernutrition appear. This is because the patient may not complain, and is either unaware of the failure of appetite or seeks to hide it. If unrecognised, it may progress to the condition known as "anorexia nervosa," a name first applied by Sir William Gull [2] to describe three cases in young women who showed distaste for food, profound emaciation, and cessation of the menses. This happily rare complaint, which was also early recognised by Lasègue, has since been described by many writers, notably Dejerine and Gauckler,[3] Sollier,[4] Nathan,[5] Lyon,[6] and Venables.[7] Though it is amenable to treatment, a fatal issue is not unknown, and Elliott [8] has reported the results of autopsy in two cases in each of whom the body-weight at death was under 4 st. The findings showed that death had resulted from starvation, the tissues being denuded of fat.

To whatever cause it may be due, it is evident that persistent loss of appetite will lead in time to undernutrition. The energy needed, not being sufficiently supplied by the diet, is supplemented by the gradual using up of the bodily reserves of fat, glycogen, and protein. In a well-nourished fasting subject 87 per cent. of the total energy is derived from the breaking-down of stored fat and only 13 per cent. from the tissue protein (Lusk [9]). Later, when the fat reserves have been exhausted, protein metabolism is increased. Though total abstinence from food cannot be borne for long, partial starvation can be endured for an almost indefinite period, the duration depending on the initial weight of the patient, the daily expenditure of energy, and the character of the food eaten. Many writers have commented on the extraordinary energy displayed by the subjects of functional anorexia. Clifford Allbutt [10] drew a vivid picture of a young woman "whose daily food might lie on a half-crown piece," who was "busy with mothers' meetings and with what you please else of unselfish effort, yet on what funds God only knows." This feature may be related to the findings of Hassin [11] who studied the effects of famine on Russian peasants. He was struck by the absence of structural changes in the nervous system, even in the presence of extreme emaciation.

Material for Consideration.

This paper is based on the experience gained from 20 cases of functional anorexia treated in the past five years at Ruthin Castle. In all, organic disease has been excluded by preliminary physical examination and testing of the blood, urine, and fæces. In many cases, where the possibility of an obscure underlying physical disease could not be excluded, further investigations were made, such as fractional gastric analysis, X ray examination of the alimentary tract, and estimation of the basal metabolic rate and sugar tolerance.

In Table I. the results of physical examination are summarised. Seven cases (Nos. 4, 9, 10, 11, 15, 17, 20), belonged to the anorexia nervosa type and showed almost complete loss of appetite, emaciation, and amenorrhœa. The lowest weight in the series was 4 st. 6 lb. in a subject (Case No. 17) whose height was 5 ft. 3 in. The average weight for a woman of her age and height would be 9 st. In the more severely undernourished cases the skin was dry and parchment-like, and subject to bruises on prominent parts and patches of eczema. The extremities were cold

and blue and the temperature was generally subnormal with a slow pulse. The systolic blood pressure was below 100 in five cases, below 120 in 12, and in none was it above 140 mm. This lowering of blood pressure is in accordance with the findings of Cathcart [12] and Rostoski,[13] who noted a similar fall in starving subjects. Inquiry into the questions of sex,

TABLE I.

Case	Sex and age.	Civil state.	Height.		Weight.		Menses	B.P.	Pulse-rate.	Temp.
			Ft.	in.	st.	lb.				
1	F. 36	S.	—		8	2	N.	90/60	68	98·4°
2	F. 32	S.	5	10½	7	9	Irreg.	104/76	72	97·6°
3	F. 49	S.	5	3	6	0	N.	120/60	68	97·4°
4	F. 37	S.	5	6	7	0	Am.	120/80	54	98·2°
5	F. 41	S.	5	9	7	10	N.	105/86	66	98·0°
6	F. 41	M.	5	7½	7	3	N.	100/85	48	97·8°
7	F. 42	M.	—		7	12½	N.	120/90	62	97·4°
8	F. 29	S.	5	9½	9	5	—	126/92	60	97·6°
9	F. 39	S.	5	5	5	3	Am.	90/70	64	98·0°
10	F. 20	S.	—		6	2½	Am.	106/90	72	98·2°
11	F. 21	S.	—		5	8	Am.	110/60	70	97·2°
12	F. 32	M.	5	6	7	8	N.	86/70	68	97·6°
13	F. 29	S.	—		8	0	N.	115/90	66	98·0°
14	F. 53	S.	—		5	10	N.	140/70	98	98·2°
15	F. 29	S.	5	5	7	2	Am.	70/50	70	97·6°
16	M. 20	S.	5	10	10	9	—	125/80	76	97·8°
17	F. 25	S.	5	3	4	6½	Am.	92/66	60	98·4°
18	F. 39	M.	5	6	8	11	N.	136/92	68	97·0°
19	F. 39	S.	5	4	6	8	N.	118/80	72	98·2°
20	F. 23	S.	5	7½	6	2½	Am.	125/75	60	97·2°

Am. = amenorrhœa.

Notes.—Case 2.—Masculine build. 3. Emaciated; energetic. 4. Emaciated. 6. Cold extremities. 8. Eczema of face. 9. Emaciated; bruising on legs. 10. Emaciated. 11. Cold extremities. 17. Very emaciated; energetic. 20. Emaciated; dry irritable skin.

age, and civil state showed a preponderance in females (19–20), and in single persons (16–20), and the average age for the series was found to be 33.

Preliminary Observations.

Mild and temporary forms of functional anorexia respond readily, as a rule, to simple methods of treatment. A short holiday and freedom from domestic duties is often all that is required to restore the jaded appetite of a tired housewife. A bitter tonic before meals and daily outdoor exercises are required for others. The 20 cases which have been selected in this instance had not, however, responded to home methods and had been referred for hospital treatment. When there is persistent anorexia with loss of flesh it is generally advisable to separate the patient from home and relatives. Once away from the influence of over-anxious parents and the home atmosphere a patient may do well if put on an ordinary full diet, and in many of the cases treated no other steps were necessary. In other cases the loss of appetite persists even after removal to hospital, and in these more specific methods are required.

In many cases inquiry will elicit a history of a shock, anxiety, or disappointment which preceded the loss of appetite. Whenever possible difficulties should be adjusted, but only too frequently the circumstances are such as may not be readily altered. Often, too, the anxiety or shock is in the past and the patients have sunk into a state of indifference or carelessness. They are probably suffering from the effects of prolonged semi-starvation as much as anything. Improvement in nutrition and the passage of time will therefore play an important part in restoring the lost balance. Though, in this paper, the physical aspect of the problem is considered more in detail, it is not intended to ignore the all-important and—in anorexia nervosa—ever-present psychological aspect. Psychotherapy will play an important part in treatment and success will depend largely on the degree to which the patient will coöperate with the doctor. The confidence of the patient must be secured in the early days and care must be taken to do nothing subsequently which would alienate goodwill. Detailed psycho-analysis has been given a careful trial, but is not, in our experience, needed or advisable.

A few days should be spent before active treatment is commenced in studying the character and extent of the anorexia. A patient may state that she cannot eat large quantities of food. When, however, the amount is reduced the same tendency to leave a part uneaten persists, and of average-sized meals from half to two-thirds, as a rule, is left uneaten. There is frequently a dislike for certain types of food, such as eggs, milk, potatoes, or puddings, and a fondness for others, usually of much lower nutritive value, such as fruit, salads, tea, and coffee. In cases of persistent anorexia with steady loss of flesh it is an advantage to know how much food is actually eaten when the patient is left to her own devices. For three consecutive days, therefore, a note is kept of the quantities given at the various meals and the amount left untouched after the meals. The caloric value of the food eaten can then be calculated. In Case No. 20 the weight on admission was 6 st. 2½ lb. and the height 5 ft. 7¾ in. The average weight for a woman of this height would have been 9 st. 8 lb. This patient was therefore 47½ lb. under weight. Loss of appetite had followed a period of overwork for an examination and weight was being lost at the rate of about 1 lb. a week. The diet was measured for three days. Had all the food been eaten the value of the diet would have been 1900 calories, but as almost half was left uneaten the value of what was ingested was about 1000 calories. On this meagre diet the patient was doing a full day's work, with inevitable loss of flesh.

Dietetic Treatment.

In considering this an analogy may be drawn with the treatment of obesity resulting from excessive appetite. It is, of course, no more necessary to fast a person in order to lose flesh than it is to overfeed another to gain it. The obese subject must have the diet reduced and take more physical exercise. The undernourished subject must increase the amount of food eaten and reduce the expenditure of energy. If this is reduced to a minimum very little increase in the diet may be required. Prolonged fasting in the obese often produces ill-effects and, similarly, if undernourished subjects are grossly overfed a violent reaction may occur, with indigestion, loss of confidence, and further depletion of weight. In treating obesity the diet may be made as bulky as possible by the use of soups, vegetables, &c., which, whilst appeasing hunger, have a negligible food value. Conversely, in functional anorexia it is permissible to make the diet as small as is compatible with the necessary requirements. The object of treatment is twofold: to improve the nutrition of the patient in the hope that this may result in a more healthy state of the appetite, and to stimulate the lost appetite by various methods.

IMPROVEMENT IN NUTRITION.

Reduction of expenditure of energy.—The patient should be kept in bed at first in a warm room with a temperature of about 60° F. When patients are in bed, sitting up for meals and reading, the arms and shoulders are often exposed. These should be covered by a warm jacket or cardigan, with long sleeves extending to the wrists, to minimise loss of heat. Part of the afternoon should be spent completely at rest, the patient lying down and sleeping if possible.

Difficulty may be met at first with the more energetic patients in achieving these ends, but as a rule they quickly settle down. Getting up may be allowed later, and the time for this will depend on the results. Indeed, the prospect of it is often a valuable incentive towards eating the required increased amount of food.

Increased diet.—According to the formula of Du Bois the basal requirements can be calculated from W. $0{\cdot}425 \times$ H. $0{\cdot}725 \times 71{\cdot}84$ (W = weight in kg.; H. = height in cm.). In giving the surface area in square metres by a reference to the tables worked out by Du Bois and Gephart,[14] calories per square metre per hour can be obtained; 25 calories per kg. in 24 hours should be supplied for an average patient. In the Case (No. 20) mentioned above, the weight was 6 st. 2½ lb., or approximately 42 kg. The amount of food required to maintain basal equilibrium was therefore about $42 \times 24 = 1000$ calories. Actually the patient was eating slightly less than this and doing a full day's work. In such a case the diet should be led on to 1500–2000 calories while the patient is resting in bed.

In arranging a suitable diet for a patient suffering from functional anorexia all appearance of bulk should be avoided, the food being rather in concentrated form and as appetising as possible. Some foods, such as roast pork, salmon, and sausage, though highly nutritious, often prove indigestible, and when this is so should be avoided. The relative values of an ounce of each of some of the common foodstuffs is given below for comparison. The figures given are those in use at Ruthin Castle, many being from food analyses made by Mr. A. J. Leigh, B.Sc.

	Calories.		Calories.
Dripping, suet	270	Roast beef or mutton	87
Olive oil	248	Egg, boiled	80
Butter	227	Cream	77
Nuts—brazil, almonds, walnuts	208–212	Cooked chicken or duck	68
Grilled bacon	155	Boiled potato	28
Cheese (Cheddar)	117	Milk pudding—rice, sago	27
Bread, toasted	93	Boiled sole, cod	26
		Milk	19

The foods which are largely composed of fat (bacon, cheese, lard, butter, nuts, olive oil, and cream) have the highest value, since a gramme of fat yields 9 calories of heat as compared to the 4 calories yielded by a gramme of protein or carbohydrate. Tea and coffee have no food value; soups, salads, vegetables, and fruit a low one. The worth of these in a diet can, however, be increased by the indirect use of fat-containing foods. Thus cream may be advised in preference to milk in tea or coffee. Soup is also improved in flavour by the addition of cream. Cream and sugar are usually taken with stewed fruit, and vegetables are rendered more appetising by the use of butter in cooking. Most people prefer toast to bread, and this is an advantage because, weight for weight, having less water, toast contains more nourishment. Boiled potatoes may be improved by mashing and mixing with cream and butter. The resulting "potato cream" has a high caloric value.

Below is given a sample diet of about 1500 calories made up largely on the above lines. In arranging a suitable diet for an undernourished subject with a poor appetite, it is not necessary to weigh the quantities unless the case is a severe one and there is doubt whether enough food is being taken. As a rule, in the milder cases the necessary amounts of food can be gauged roughly by experience alone.

Solid food is, as a rule, more difficult to take than liquid, and when there is difficulty in increasing the diet it may be supplemented by certain nourishing and yet palatable drinks. In the treatment of our cases these have played an important part, and there are three which deserve mention.

1. *Martin's mixture* is prepared by mixing equal parts of cornflour, milk, and lactose and stirring; 8 oz. of this mixture has a food value of about 500 cals. The drink is best given in two equal portions some time in the forenoon and at bedtime.

2. *Orange-juice.*—This is prepared from the fresh juice of oranges mixed with an equal quantity of water to which glucose is added. A pint of this will take 150 g. of glucose and the juice of six oranges; the value is about 800 cals. The jug is left by the bedside and the juice may be drunk with meals or at intervals during the day or night. It has an agreeable clean flavour and is readily taken.

3. *Barley-water.*—This consists of barley-water to which glucose and a little lemon-juice have been added. When flavoured with lemon 30 g. of glucose can be contained in one pint and the value is about 120 cals.

DIET OF ABOUT 1500 CALORIES.

		Oz.
Breakfast.		
Two slices of toast; one pat of butter; egg scrambled with butter. Tea with cream, sugar.	Toast	= 1
	Butter	= ½
Lunch or Dinner.		
Roast beef or mutton; cabbage cooked with butter; a small milk pudding made with an egg; one slice of toast, butter.	Toast	= ½
	Butter	= ½
	Beef	= 1
	Cabbage	= 2
	Rice	= 1
	Egg	= 1
	Milk	= 6
Tea.		
Tea with cream, sugar, three slices of bread and two pats of butter.	Cream	= 1
	Bread	= 1½
	Butter	= ½
Dinner or Supper.		
Tomato soup (about 6 oz.) to which cream is added. Fish, potato, cream, stewed fruit with cream and sugar. One slice of toast with a pat of butter and a little cheese.	Cream	= 3
	Fish	= 1
	Potato	= 2
	Butter	= ½
	Fruit	= 3
	Toast	= ½
	Cheese	= ½

After a start has been made with the diet such as has been described, of about 1500 calories, the addition of one of the above will bring the value up to about 2000 calories, which is more than ample for a person lying in bed. Attempts may then be made to increase gradually the amounts of solid food taken. As far as possible the increase should be almost imperceptible. The patient is weighed weekly but no comment is made except that progress is favourable. It is undesirable that a patient should be aware one week that she has not gained weight and equally undesirable that she should think that with the gain of 1 or 2 lb. efforts may be relaxed. In a severely undernourished person who is practically refusing food it may be necessary to insist on the food being eaten by being present at meal-time. This was only required in a few cases.

IMPROVEMENT IN APPETITE.

This usually occurs gradually as weight is gained, but its return may be encouraged in the early stages by a variety of measures.

Bitter tonics and acid.—The drugs most frequently used to promote appetite are the bitter tonics and particularly gentian and strychnine with dilute hydrochloric acid. The prescription which was most used in our cases was tinct. nucis vomicæ ℥ 5, ac. hydrochlor. dil. ℥ 10, glycerini ℥ 30, inf. gent. co. ad. 1 oz. An ounce of this was given before meals thrice daily. It is rational to suppose that those cases which show subacidity of the gastric juice are most suitable for treatment with acid; seven of the 20 cases had subacidity when examined with a fractional test-meal. Boas,[15] writing on the value of bitters in the treatment of anorexia, states that they are not of much value in prolonged cases but do good in cases where there is temporary failure of appetite. This is in accordance with our own experience, and we have found them more useful in the milder types

and in the more severe cases after a start has been made.

Insulin.—Since its introduction in the treatment of diabetes insulin has also been used to promote appetite. Many writers have reported their experience of it in the treatment of anorexia. Among these may be mentioned Vogt,[16] Falta,[17] Appel, Farr, and Marshall,[18] Levi,[19] Short,[20] Moutier,[21] and Frank. Vogt and Falta noted that it improved the general as well as the carbohydrate metabolism. Appel and Farr treated 33 undernourished psychotic patients who were complaining of loss of appetite. Of these 16 were males, and the average gain per week was 3 lb. Thirteen were females, and with dieting alone they gained about a pound a week. With insulin in addition they gained an average of 2½ lb. a week. These authors stressed the necessity for careful supervision, as three of their patients developed severe hypoglycæmia. The dose they used was from 10–40 units daily. Short reported seven cases of loss of appetite successfully treated, but noted that the effects of insulin in improving the appetite were off after a time. He advised ten units half an hour before meals. Moutier obtained good results with insulin in nine of 23 cases. He began with five units twice a day and increased the dose to 20–30 units.

In many of the present series of cases sugar-tolerance tests were performed during the preliminary investigation; 60 g. of cane-sugar were given on a fasting stomach, first thing in the morning, the patient resting in bed and the blood-sugar being estimated at half-hourly intervals by Hagedorn's method. The blood-sugars were within the normal range in all the cases, but in some tolerance appeared to be slightly decreased (Cases 10, 11, 13), whilst in others (Cases 8, 20) it was slightly increased. In these two cases with a low range of blood-sugar it appeared likely that insulin might be dangerous. The figures are given as follows:—

Case	Resting	Blood-sugar: Hours.					Result.
		½	1	1½	2	2½	
1	1·10	0·10	0·16	0·12	0·11	0·11	Normal.
2	0·08	0·11	0·13	0·15	0·08	0·07	,,
8	0·07	0·11	0·10	0·10	0·10	0·08	Increased.
10	0·11	0·15	0·20	0·16	0·11	—	Decreased.
11	0·09	0·16	0·20	0·21	0·18	0·12	,,
13	0·09	0·17	0·15	0·20	0·14	0·14	,,
16	0·08	0·12	0·18	0·15	0·16	0·12	Normal.
18	0·07	0·16	0·18	0·14	0·10	0·10	,,
20	0·08	0·10	0·08	0·08	0·08	0·06	Increased.

Insulin was used to promote appetite in six cases. The results obtained were not striking. In some there was no appreciable result; in others a sense of weakness or emptiness followed the injections. In none was a pleasant sense of appetite produced. The doses given were small, from 3–10 units twice daily, the usual being five units. It is possible that better results might have been achieved with larger doses, but the experience in one case (No. 9) was sufficiently alarming to discourage higher dosage.

This patient was suffering from anorexia nervosa and weighed 5 st. 3 lb. She had been having insulin in doses of five units before breakfast and five units before dinner. After a week she was found one afternoon in a state of hypoglycæmia with symptoms of severe collapse, feeble pulse, cold extremities, and extreme mental apathy. Glucose by mouth and per rectum and a subcutaneous injection of adrenalin ℥ 5 relieved the symptoms.

The best results were obtained in patients who were not severely undernourished and who were already improving with diet alone. After three or four weeks the appetite often showed a tendency to flag, and it was then that insulin appeared helpful, in small doses given for a short period such as a week or a fortnight. After that its effect appeared to wear off.

Thyroid.—Thyroid has been used as a means of promoting appetite. Lévé gave small doses of the extract by the mouth to women suffering from functional anorexia and observed that the appetite returned and the weight increased. In starvation there is a lowering of the basal metabolism, and Benedict,[22] experimenting with students on a reduced diet, noted an average fall of from 101 to 88·5 per cent. in six weeks. The conditions in functional anorexia are akin to those of semi-starvation, and Moeller[23] found in four cases of this kind a fall in proportion to the degree of under-nutrition. Estimations of the basal metabolic rate were made in nine cases. In only two, however, was the result below 90 per cent. Both of these (Nos. 9 and 15) were much undernourished and suffering from anorexia nervosa. In emaciated subjects with an intense anorexia it is probably undesirable to increase metabolism artificially unless one can be sure that an adequate quantity of food will be eaten. With a persistent anorexia such a procedure would only hasten the loss of flesh. The extract may be tried, however, with safety in half-grain doses twice a day at first in patients of the milder sort with a slow pulse and lower basal metabolic rate who can be persuaded to eat.

Gastric lavage.—Gastric lavage is of value in the treatment of chronic gastritis resulting from alcoholism, renal disease, or benign pyloric stenosis. Improvement in appetite and gain in weight result. Tixier[24] has found it helpful in the anorexia of infants and young children. In the functional anorexia of adults there is often a complaint of fullness after meals. In seven cases of this series (Nos 2, 4, 9, 12, 13, 14, 20) the stomach was found to be dropped and relaxed, whilst a seven-hour gastric residue was present in one case (No. 13). Though it is unpleasant at first, patients rapidly accustom themselves to gastric lavage and learn to do it themselves. The best time is about 6 P.M. The residues of the day's food are then washed out with a warm solution of bicarbonate of soda, about a teaspoonful to the pint, and the stomach is left empty to receive the evening meal. During the night the stomach has again a chance to empty, so that emptying occurs at least twice in the 24 hours. In three cases in which this method was employed, improvement in appetite resulted, and one case (No. 20) gained 26 lb. over a period of several months during which the treatment was carried out by the patient herself. Lavage may be given daily at first and after a time thrice a week; later it is reserved for occasional use as required.

Periodic Fasts.—The practice of fasting dates back to the earliest times. The first symptom which fasting produces is hunger. In experiments with rats, Pembrey and Spriggs[25] noted that when an animal was fed after a fast there was a rapid increase of weight, the previous hunger apparently acting as a stimulus to the assimilation of food. These observations confirmed those of earlier workers, such as Seeland, Barfurth, and Noé.[26] Though fasting has been used as a therapeutic measure in many diseases, we have not met with references to its possible value in the treatment of loss of appetite. In the past year six cases have been treated by this method on Dr. E. I. Spriggs's suggestion. The impression gained is that it is a valuable means of promoting appetite and gain of weight. It is applicable to all

grades, from the mild variety to the more severe type of anorexia nervosa. Moreover, patients who are struggling with their appetites enjoy a periodic rest, and are more willing to eat the prescribed amounts of food on the following days.

Treatment is begun with a "fast" day. No solid food is taken but water may be drunk, and half a pint of orange juice, prepared in the manner described above (400 calories), is left by the bedside. On the next three days a diet of about 2000 calories is given. On the fifth day there is another fast, and so on with three days' full diet and one day's fast. Thus in a week there are two fast days at first. As appetite improves, only one fast day is given a week, and later fasting is reserved for occasional use only. The patient is, of course, kept in bed on fast days as well as on other days at first, but later getting up may be allowed on the full diet days. An example is given below to show the benefit which may result from periodic fasting.

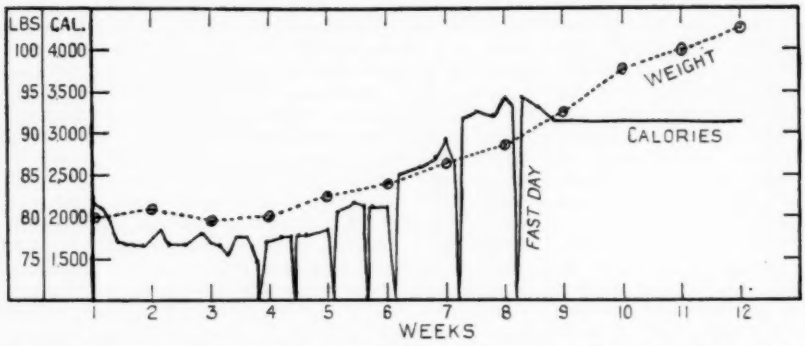

Chart showing a gain of 23 lb. in weight under treatment by rest in bed, dieting, and periodic fasts.

The patient, a woman (Case 14), weighed 5 st. 10 lb. and complained of loss of appetite and tiredness. She was persuaded with difficulty to eat a light diet which had an average value of about 1500 calories. Resting in bed she gained weight slowly: 4 lb. in just over a month. Fast days were then given. The actual figures are arranged below for comparison over a period of ten consecutive days.

Persuasion.		*Periodic Fasts.*	
Day.	Caloric value.	Day.	Caloric value.
1	1,750	11	Fast (490).
2	1,600	12	2,300
3	1,530	13	2,250
4	1,630	14	2,430
5	1,620	15	1,700*
6	1,630	16	2,410
7	1,530	17	2,830
8	1,680	18	Fast (380).
9	1,640	19	2,850
10	1,570	20	2,420
Total	16,180	Total	20,060

*Half-day fast.

After the first fast the appetite improved and more food was eaten on the succeeding three days. Before it began to flag again another short fast was given. The figures show that even with two whole days' and one half-day's fast more food was eaten than on the previous ten days without fasts. At the end of a month on this régime 9 lb. weight had been gained as compared with the 4 lb. gained in the preceding month without fasts.

Results of Treatment.

In Table II. the results of treatment are set out. It will be seen that, of the 20 cases treated, 16 responded to treatment and did well, recovering their appetite and nutrition. The remaining four cases did not improve. They were treated some time ago and their present state is known. The first (Case 1), a single woman aged 36, had lost her appetite after the death of her mother and an operation on the abdomen. She was profoundly depressed throughout and would have lost weight through lack of food had she been left to herself. As it was, with the most strenuous efforts at persuasion, she held her weight but did not gain, and left in much the same state. After this she was treated in a nursing home and in a hospital for nervous diseases without improvement. Her present state two years later is much the same as then. In this case the mental state of depression dominated the picture. The second case was an energetic married woman of 42 (Case 7). Her energy expenditure was much in excess of the small amount of food she ate and she resented interference with her diet. In every way she appeared to be very well except that she had no appetite, a nd she also is in much the same position two years later. The third case was similar to the second and occurred in a young married woman of 29. The fourth case (No. 9) has been about 5 st. 3 lb. for years. In both the third and the fourth cases there appeared to be an element of mental deficiency.

Of the 16 cases which did well, success in restoring appetite and nutrition seemed to depend on: (1) the gaining of the patient's confidence; (2) the degree of

TABLE II.

Case No.	Weeks of treatment.	(*a*) Weight on admission (*b*) on leaving.	Weight gained.	Rate per week approx.	Type of treatment.	Results.
		st. lb.	lb.	lb.		
1	15	(*a*) 8 2 (*b*) 8 2	0	0	Dieting.	Unchanged
2	3	(*a*) 7 9 (*b*) 7 12	3	1	Dieting and P.F.	Imp. A. and N.
3	7	(*a*) 6 0 (*b*) 6 8	8	1	Dieting.	,,
4	8	(*a*) 7 0 (*b*) 8 1	15	2	,,	Recovery.
5	16	(*a*) 7 10 (*b*) 8 5	9	½	,,	Imp. A. and N.
6	12	(*a*) 7 3 (*b*) 8 2	13	1	Dieting, P.F., and insulin.	,,
7	5	(*a*) 7 12½ (*b*) 7 5½	0	0	Dieting.	Further loss of flesh.
8	6	(*a*) 9 5 (*b*) 9 13	8	1	,,	Improved.
9	16	(*a*) 5 3 (*b*) 5 5¾	2¾	0	Dieting, G.L., insulin.	Unchanged
10	12	(*a*) 6 2½ (*b*) 7 11½	23	2	Dieting.	Recovery.
11	10	(*a*) 5 8 (*b*) 7 8	28	3	,,	,,
12	9	(*a*) 7 8 (*b*) 8 2	8	1	Dieting, G.L., insulin.	Improved.
13	16	(*a*) 8 0 (*b*) 7 11¾	0	0	Dieting, G.L.	Unchanged
14	16	(*a*) 5 10 (*b*) 7 7	25	1½	Dieting and P.F.	Recovery.
15	12	(*a*) 7 2 (*b*) 8 4½	16½	1¼	Dieting and insulin.	,,
16	3	(*a*) 10 9 (*b*) 10 12	3	1	Dieting.	Improved.
17	12	(*a*) 4 6¾ (*b*) 5 7¾	15	1	Dieting and P.F.	,,
18	9	(*a*) 8 6 (*b*) 9 4	12	1	,,	Recovery.
19	5	(*a*) 6 8 (*b*) 7 11½	9½	2	Dieting.	,,
20	12	(*a*) 6 2½ (*b*) 8 0	25½	2	Dieting and P.F., insulin.	,,

P.F. = periodic fasts. G.L. = gastric lavage. Imp. A. and N. = Improved appetite and nutrition.

mental stability; and (3) the coöperation of the parents, so that time was allowed to obtain the necessary result. The optimum period of treatment for a case of severe anorexia or anorexia nervosa appeared to be about three months. In this time 1–2 st. could be gained and appetite recovered in most cases. As a rule the greatest increase of weight was made by the most undernourished patients. Of the different methods used, including dieting, insulin, gastric lavage, and bitter tonics, the best results seemed to follow the practice of periodic fasts and increasing the diet after the fast days. The method has the advantages of being free from risk and acceptable to the patient. The accompanying graph represents the progress made by a patient on this régime, the curves showing the gain in weight and the diet in calories with fast days.

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HEART-BLOCK FOLLOWING ACUTE APPENDICITIS.

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THE following case seems worth recording because heart-block is an extremely rare sequela of appendicitis, and because electrocardiographic tracings were obtained at frequent intervals illustrating the rapid sequence of changes which occurred.

Record of the Case.

The patient, a man aged 41, was admitted to Addenbrooke's Hospital on Sept. 4th, 1930.

For five years he had had attacks of pain in the abdomen at infrequent intervals. These had not lasted more than a few days, and he had not taken very much notice of them. In all other respects he had been perfectly healthy. He had never had any symptoms suggestive of acute rheumatism or syphilis, and his family history was good. Two days before admission he had been seized with severe pain in the right iliac fossa, associated with vomiting and constipation, and on admission he was seen by Mr. W. H. Bowen, who diagnosed acute appendicitis.

Operation was performed at once and an acutely inflamed appendix removed without difficulty. There was no sign of gangrene or perforation, but flakes of lymph were present on its peritoneal surface and on the adjacent omentum. After operation progress was uneventful until Sept. 8th. The temperature, which was 101° F. on the day after operation, subsided gradually. The wound appeared quite healthy, and there were no other signs or symptoms during this period.

On Sept. 8th the patient did not feel quite so well, but nothing abnormal was noticed. On the early morning of the 9th the *pulse* became slightly irregular, and appeared to be dropping beats. At 6 A.M. he felt dizzy and complained of abdominal discomfort, but this was ascribed to an aperient which he had been given. On the morning of the 10th the pulse was quite irregular, the rate was slower than it had been (72), and at times several beats appeared to be dropped. The patient on the whole seemed better and was beginning to eat well.

On the 11th, at 3 A.M., the pulse suddenly became very poor and irregular, and the patient became pale and collapsed and perspired freely. He complained that he felt a terrible sinking sensation in his chest and a sense of impending disaster, although there was no actual pain. These sensations gradually passed off and the pulse improved.

I was first asked to see him at 10 P.M. on the same day. He was then still rather pale and collapsed. The pulse was of good volume, and regular but for one or two missed beats in every minute. The rate was 72. The heart did not appear to be enlarged, and the sounds though faint were otherwise normal. There was no evidence of arterial disease in the optic discs or elsewhere. The blood pressure was 110/75. The only other symptoms were a slight pain in the right shoulder which had come on the day before and might easily have resulted from lying in one position, and acute congestion of the vessels of the right side of the conjunctiva, which had also come on the day before. The wound seemed to be perfectly healthy.

At 10 A.M. on the morning of the 12th the condition was unchanged except that the pulse-rate was slower (45), and dropped beats were more frequent. At times the rate would drop to 30 for five or ten consecutive beats. By 4 o'clock in the afternoon the pulse-rate was never above 35, and occasionally it was 24 for periods of a minute or more. From this point the clinical condition of the patient improved steadily, and the pulse-rate gradually quickened. On the morning of the 13th the rate had risen to 70, and no dropped beats could be detected on clinical examination. Apart from the variations in rate no abnormal physical signs were detected in the heart at any time, and by the 15th the patient was feeling quite well, and the blood pressure had risen to 140/90. The first electrocardiogram was taken at 10 A.M. on the 12th, and then once or twice daily until the 17th. The tracing on the 17th was normal but for a P–R interval of 0·28 second, and on the 26th was quite normal.

A teleradiogram taken one month after the onset of the attack showed no enlargement of the heart. The Wassermann reaction was negative.

Treatment.—During the acute phase of the attack and for 14 days afterwards the patient was kept at absolute rest. Morphia was given six-hourly from the 11th to the 13th, and after this gradually stopped. Return to normal activity was graduated, and the patient was allowed to resume work as a signalman ten weeks after the onset of the heart symptoms.

Heart-block in Infections.

Cases of transient heart-block are met with in the course of various infections, but are most frequently associated with acute rheumatism. In this condition they are by no means uncommon. Parkinson, Gunson, and Gosse,[1 2] in an analysis of 50 consecutive cases of acute rheumatism, found a P–R interval greater than 0·2 sec. in 11 cases. Some degree of block persisted for periods of from 1 to 18 days, but had disappeared before discharge from hospital. Four of these cases had dropped beats, and in one a 2 : 1 block was present which lasted for two days. Cohn and Swift[3] made a similar study in 37 cases, and found that the P–R interval was prolonged in eight, with dropped beats in one. Bain and Hamilton[4] in 50 cases found a prolonged P–R interval in two. White[5] described a case in which acute partial heart-block was one of the initial signs of onset of rheumatic fever in a boy of 18. Before any signs of acute rheumatism had appeared the a–c interval was found to be 0·5 sec., and beats were dropped. Four days later, when typical signs of rheumatic fever had appeared, the a–c interval was still prolonged, but six weeks later it had become normal. Other cases of heart-block in acute rheumatism are

reported by Butterfield,[6] Naish and Kennedy,[7] Cowan, Fleming, and Kennedy,[8] Cowan, McLeod, and Paterson,[9] Christian,[10] Lewis,[11] Mackenzie,[12] Peabody,[13] Esmein, Pezzi, and Donzelot,[14] and Routier.[15]

Partial heart-block is occasionally met with in

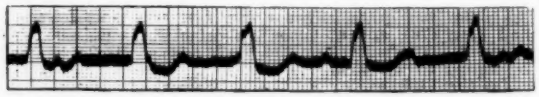

FIG. 1.—10 A.M., 12 × 30. Partial heart-block and intraventricular block. Q R S 0·12 sec. In this and subsequent figures the vertical lines are 1/5 and 1/25 sec., and lead II. alone is shown.

diphtheria. Marvin and Buckley[16] have collected nine proved cases from the literature, and added two more to these. In these cases onset was from the third to the twenty-first day of the disease, and was followed by death in all but one case. Post-mortem examinations done in some of these revealed extensive changes in the myocardium, with profound damage to the conducting system. The one case which survived, recorded by Parkinson,[17] developed complete

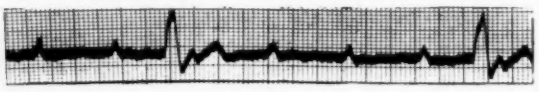

FIG. 2.—4 P.M., 12 × 30. Partial heart-block up to 4 : 1. Q R S 0·12 sec.

heart-block, which was followed by auricular fibrillation which persisted.

More rarely heart-block is met with in other infective conditions. Lewis[18] mentions that it occurs in pyogenic infections, influenza, typhoid, scarlet fever, and pneumonia, and mentions a case of transient partial heart-block from a case of subacute cystitis[19] resulting from an infection by an organism of the coli group, and a case of temporary heart-block in pneumonia. Mackenzie[20 21] mentions cases in influenza, septic poisoning, and puerperal fever; Magnus-Alsleben temporary heart-block in pneu-

FIG. 3.—10 A.M., 13 × 30. Partial heart-block 3 : 2. Q R S 0·1 sec.

monia[22]; Wenckebach a case in influenza[23]; Jellinek and Cooper[24] a fatal case in a patient with acute gonorrhœal sepsis in which autopsy revealed anæmic necrosis in the region of the bundle of His; James[25] a fatal case during the course of streptococcal septicæmia, in which autopsy revealed an ulcer in the intramuscular septum. Recorded cases with instrumental confirmation of the severer grades of heart-block during the course of infections other than rheumatism are, however, uncommon. Probably some of the attacks of bradycardia noted in such infections are due to transient attacks of heart-block similar to the present one.

The happy result in this case leaves the cause a matter for speculation.

CAUSE OF THE BLOCK.

There appear to be two ways by which heart-block could have been brought about. The conductivity of the bundle of His may have been lowered by poisons absorbed from the infected appendix. This seems very unlikely, because not only was the main source of infection removed four days before the first sign of heart involvement appeared, but the slight signs of general toxæmia which were present at operation subsided steadily, and there did not appear to be more than slight local inflammation in the vicinity of the wound after operation. Further, any signs and symptoms which were present came on too rapidly and cleared up too quickly to have been associated with any gross general damage to the muscle of the heart, and to explain it in this way such a poison must have had a selective action on the conducting tissue. A more likely explanation is that a mild bacteriæmia was associated with the

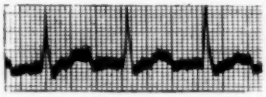

FIG. 4.—10 A.M., 14 × 30. No dropped beats. P–R 0·32, Q R S 0·08 sec.

FIG. 5.—15 × 30. P–R 0·28 Q R S 0·08 sec.

subsiding local inflammation in the appendix region, and caused a small focal inflammatory lesion in the region of the bundle of His which interfered temporarily with conduction. Possibly the pain in the right shoulder and the inflammation in the right conjunctiva may have been due to similar focal lesions. Such lesions have been described by Cowan,[26] who regards them as incidents in a general pyæmia. The larger lesions are generally found in septic infections and the smaller in cases of pneumonia, small-pox, enteric fever. They may be compared to the focal inflammatory lesions found in the muscle

FIG. 6.—17 × 30. P–R 0·28, Q R S 0·06 sec. Slow sinus rhythm.

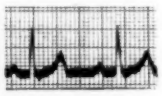

FIG. 7.—26 × 30. P–R 0·16, Q R S 0·06 sec.

in acute rheumatism which have been described by Aschoff,[27 28] and Coombs.[29 30]

The occurrence of such a chain of symptoms after appendicitis is an interesting clue to the way in which an acute infection, other than rheumatism, may lay the foundation of myocardial disease. Had the conducting tissues not been affected in this case, the signs of cardiac involvement would probably have been so slight that they would have escaped notice.

In conclusion, I should like to thank Dr. Ffrangcon Roberts for the radiological examination in this case.

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(Continued at foot of next page.)

SULPHUR, TURPENTINE, AND ALEPOL INJECTIONS

IN PERSISTENT PSYCHOSIS.

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IT has been frequently observed in the insane that intercurrent febrile illness may cause striking amelioration of the mental symptoms. Patients have been observed to improve or even recover after acute infections such as erysipelas, typhoid fever, or acute pyogenic disease. The treatment of general paresis by induced malaria is an example of the therapeutic application of this phenomenon. Yet it remains a mystery how this amelioration is effected. It may be that the production of phagocytes and antibodies is stimulated, and some hidden source of chronic bacterial toxæmia is dealt with; or the stimulation of metabolism may increase oxidation and hasten elimination of toxic waste products from the cortex and body generally; or the exposure of the brain cells to a supernormal temperature may exercise some specific influence. Another theory is that the improvement is psychogenic in origin, attributable entirely or partially to the pain or discomfort experienced and the extra attention and nursing involved. These factors will tend to focus the patient's attention upon reality, and compel him to some degree of extraversion.

Three Remedies.

In this investigation three substances known to cause a bodily reaction were selected for trial, and an attempt has been made to assess their therapeutic value in cases of persistent psychosis. The bodily defence mechanism, as evidenced by leucocytosis and the thermal reaction, was observed with the object of discovering whether a relationship exists between those physical phenomena and the mental effect produced. In assessing the value of any new therapeutic agent, it is essential that the patient selected for treatment by the new means should first be given a fair trial with ordinary therapeutic measures. Otherwise, cases which would have recovered with ordinary routine treatment, or spontaneously, would be included in the number of successes claimed for the new treatment. Especially is this true in cases of psychosis, where recovery is often unexpected or spontaneous. Apart from a small number of those treated with turpentine, all the cases have resisted, for at least six months, the usual standard treatment of the mental hospital—rest, open air, dieting, tonics, regulation of habits, and correction of physical disorders.

SULPHUR IN OLIVE OIL.

K. Schroeder[1] claims favourable results in the treatment of dementia præcox by means of Sulfosin, a 1 per cent. solution of sulphur in olive oil.

A series of 21 cases was treated by us with injections of a 1 per cent. solution of sulphur in olive oil. The solution was made by rubbing up the required quantity of the purest flowers of sulphur with pure olive oil in a mortar and placing the suspension in a hot oven until all had dissolved. The resulting sterile solution was put up in ampoules. The injections were given in increasing doses, commencing with 1 c.cm., and increasing each time by 1 c.cm. They were given at approximately five days' intervals. One case was treated entirely with sulfosin Leo (Copenhagen), while four other cases received two injections of sulfosin Leo and three subsequent injections of our own product. The general immediate effects, the pyrexia and the leucocytosis, did not differ whether sulfosin Leo or our own product were used.

The injections were made intramuscularly in the gluteal region, and only a few of the patients complained of pain. After four hours the temperature rose one degree, remained up for two or three hours, and then returned to normal. This initial rise of temperature was accompanied by a little nausea. After a variable period of from 10 to 16—or even 18—hours from the injection the temperature began to rise, usually reached 101° F., and seldom exceeded 103° F. The time during which the patient remained fevered was very variable; sometimes only seven hours, occasionally as long as 20 hours, probably depending on the rate of absorption as well as on the particular patient's reactivity to sulphur. The pyrexia was accompanied by a leucocytosis (about 20,000 white cells per c.mm.). The number of injections varied from three to ten. Generally it was found that the sixth injection (6 c.cm.) produced the greatest reaction, in a few cases producing a hyperpyrexia of 105° F. When the fever was present some nausea was complained of, and when there was hyperpyrexia actual sickness usually occurred. After the injections the leg was a little stiff, but no lasting pain, tenderness, or other disability resulted.

The diagnoses in the cases treated may be summarised as follows: katatonia, 1; schizophrenia 6; post-schizophrenic dementia, 5; melancholia, 5; manic-depressive psychosis, 1; recurrent mania, 1; hypochondriacal neurasthenia, 1; and paraphrenia, 1.

Recovery took place in one case of recurrent melancholia. The patient was a woman, aged 45, whose outstanding symptoms were agitated depression and suicidal tendencies. She was ill for nine months before admission to hospital and for six months afterwards. During this time she had improved a certain amount, but for some months before the treatment her condition had remained unchanged. She recovered after four injections of sulphur.

Seven cases could be regarded as improved. The diagnoses in these cases were: katatonia, 1; katatonic schizophrenia, 1; involutional melancholia, 3; hypochondriacal neurasthenia, 1; and paranoid schizophrenia, 1. In none of these cases, however, was improvement marked, and in five of them it occurred some months after the treatment. In two

[1] THE LANCET, 1929, ii., 1081.

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(*Continued from opposite page.*)

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of the cases the psychological effect of the injections was obviously a factor in causing the improvement.

The results are disappointing; this form of treatment seems to be of very limited value in the psychoses.

TURPENTINE.

Pascal and Davesne[2] give an account of the treatment of 257 cases by means of turpentine producing sterile abscesses, and claim very encouraging results. They used a mixture of one part of turpentine of Venice and five parts of oil of turpentine, and injected it into the deeper layers of the subcutaneous tissue of the antero-lateral aspect of the thigh.

In this investigation the same technique was followed. Fifteen cases were given turpentine alone and seven other cases received a subsequent course of T.A.B. vaccine intravenously, the vaccine being administered as the temperature reaction due to the turpentine was subsiding. The amount injected varied from 1·5 c.cm. to 2 c.cm., the former dose as a rule being given to females and the latter to males.

The diagnoses in the cases treated may be summarised as follows: schizophrenia, 9; mania, 2; melancholia, 5; manic-depressive psychosis, 1; paraphrenia, 1; general paresis 1; acute confusional insanity, 2; and post-schizophrenic dementia, 1.

In this series the bodily reaction, as evidenced by the local reaction, leucocytic reaction, and degree and extent of pyrexia, could not be correlated with the mental response. It did not necessarily follow that, because the physical reaction was a severe one, there would be a marked improvement in the mental sphere.

Some hours after the injection the patient complained of pain and itching at the site, and in about 12 hours the temperature commenced to rise and a red brawny swelling appeared. Symptoms increased in intensity for three days and the swelling became fluctuant. The average extent of the swelling was six inches by five. In a few cases a much more extensive and diffuse reaction occurred, affecting the whole outer aspect of the thigh. In two-thirds of the cases the abscess underwent spontaneous absorption, while in the remainder incision and drainage were necessary. The pus was a thin brownish hæmorrhagic fluid containing tissue debris, turpentine globules, and leucocytes. The temperature gradually subsided and returned to normal after a period varying from 3 to 13 days. The pus was examined and found to be sterile. In all cases the patient was confined to bed, and the routine treatment of fever carried out during the acute stage. A little lameness was noticed for a few days after, but no permanent disability resulted.

Only in two cases was the treatment entirely devoid of beneficial effect. They were similar cases, suffering from a severe type of melancholia, with restlessness, suicidal impulses, and such agitation that it rendered them inaccessible. In them the effect of the injection seemed to be merely an increase in their load of misery. No ill-effects were observed except in one patient who was given 2·5 c.cm. of turpentine. A marked, though transient, albuminuria was produced. No impairment of kidney function resulted, but this indicates that it is inadvisable to give more than 2 c.cm. of turpentine at one time. A second injection may have a marked beneficial effect after the failure of the first. In no case did we observe the reactivation of the inflammatory process, at the site of the first injection, described by Pascal and Davesne.

[2] Traitement des Maladies Mentales par les Chocs.

The general impression given by the investigation is that the claims put forward by Pascal and Davesne are unduly optimistic, but that in selected cases the production of sterile abscesses by means of the injection of turpentine is quite a potent therapeutic agent in the psychoses. In an acute recoverable benign type of illness the good effect of the turpentine is potent enough to accelerate the natural process, and thereby perchance it may at a critical moment turn the balance in the patient's favour. In the chronic malignant type of psychosis, a good effect is obtained but the course of the psychosis is not essentially altered. For example, one patient suffering from paraphrenia, who was a very resentful, idle, noisy, uncoöperative person, has become quieter, and is now an active willing ward-worker. Her delusional system is unaltered, and she is still noisy and resentful at times. Again, a general paretic, who was quite unmanageable and taxed the resources of the nursing staff to the utmost, became a pleasant, amenable patient. The subsequent course of T.A.B. vaccine was of no additional value.

ALEPOL.

Alepol is a preparation of sodium hydnocarpate used in the treatment of leprosy by Sir Leonard Rogers. A 3 per cent. solution was made, and injections of it were given intramuscularly, commencing with a 1 c.cm. dose. Injections were given twice weekly, increasing the dose by 0·5 c.cm. each time until a dose of 5 c.cm. was reached. Alepol is said to be the active principle of chaulmoogra oil, and it was considered worthy of trial.

Five cases were treated: two of post-schizophrenic dementia, two of hebephrenic schizophrenia, and one of paranoid schizophrenia. Nine injections were given to each patient, and in one case there was slight improvement.

In each case a white count was performed before, during, and after the course of alepol. The general effect was to produce a mild leucocytosis not exceeding 16,000 white cells per c.mm. We are of opinion that no beneficial effect was produced by this treatment.

Discussion.

On reviewing the results as a whole, no correlation can be found between the physical disturbance produced and the mental changes. A marked and constant increase in the white corpuscles is produced by sulphur in oil, a moderate increase by turpentine, and a slight increase by alepol. Despite the fact that sulphur in oil is capable of stimulating a vigorous reaction of the leucocytes, it does not produce a corresponding mental improvement. Examination of the turpentine series shows that the degree of leucocytosis is not proportionate to the mental improvement; and augmentation of the leucocytosis by means of T.A.B. vaccine has absolutely no additional therapeutic value. Thus, stimulation of the defence mechanism of the body as indicated by leucocytosis, is not the essential factor in effecting mental improvement, and the application of the term "leucogenic shock" to turpentine therapy is undesirable.

In sulphur we have an excellent agent for the artificial induction of pyrexia but, as stated above, little beneficial effect accrued from its exhibition. In the turpentine series no relationship was found between the degree and extent of pyrexia on the one hand and the mental improvement on the other. Although T.A.B. vaccine is a powerful agent for production of pyrexia, its administration was a failure from the therapeutic point of view.

Increase of nursing attention is not an essential factor, as patients suffering from acute confusional insanity, who are already receiving constant attention, may show a striking response to the injection of turpentine.

In our opinion pain is the most important psychological factor in the improvement, although it cannot be denied that the extra attention and care bestowed on the patient do cause improvement by keeping him more closely in contact with his environment.

CONCLUSIONS.

1. Sulphur in oil is of limited value as a therapeutic agent in cases of persistent psychosis. Alepol is of no value. Turpentine has a limited value in selected cases.

2. Pyrexia and leucocytosis are not in themselves sufficient to cause mental improvement. Hence it appears that the amelioration of the mental symptoms, which occurs in psychotics who contract intercurrent febrile illness, is due to some other factor or factors.

The psychological factor undoubtedly plays a part, but we do not feel that it is the entire explanation. Probably the stimulation of metabolism, by oxidising and eliminating toxic waste products, is an important factor.

We desire to express our thanks to Dr. Easterbrook, physician-superintendent of Crichton Royal, for valuable advice and criticism, and for permission to publish these results.

SCLEROSIS OF THE PULMONARY ARTERY WITH THROMBOSIS.

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FOUR main groups of diseases of the pulmonary artery are generally recognised:—

(1) *Congenital* (usually stenosis, but occasionally dilatation of the pulmonary arteries).

(2) "*Primary sclerosis*," where there is no obvious cause. Several different lesions are included under this name. Usually the walls, and especially the intima, of the small branches of the pulmonary artery are thickened and the lumen narrowed, and there is also atheroma of the larger branches. Probably the cases described by Rogers[16] in India should be put in this group, as the evidence of a syphilitic origin would not now be thought sufficient. In Veale and Coombs's[18] case in a child of 5 there were lesions resembling atheroma. Clarke's[5] Cases 3 and 4 showed similar lesions, though the microscopical appearances were rather anomalous. Clarke suggests that, as these lesions are sometimes found in children, the condition is due to an inborn deficiency of the material of which the pulmonary arteries are made.

(3) *Syphilitic disease* which may occur alone or together with other syphilitic lesions such as syphilitic aortitis, or, according to Arrillaga[1] and others, syphilitic bronchitis. There are two main types of lesion: (*a*) syphilitic endarteritis or panarteritis of the small branches, usually associated with atheroma of the main branches, and (*b*) lesions of the main branches closely resembling syphilitic mesaortitis. In such cases aneurysms may occur. Sometimes both types of lesion are combined. Although syphilitic pulmonary artery disease is rare, the literature seems to be concerned chiefly with this type of case.

(4) *Secondary sclerosis*, occurring in cases in which the pulmonary blood pressure is thought to be raised, such as fibrosis of the lungs, emphysema, and mitral stenosis. This is by far the commonest group, but it has attracted very little notice.

CLINICAL PICTURE.

The best known clinical syndrome of pulmonary artery disease is often called Ayerza's disease. The patient is usually middle aged and has suffered from cough and dyspnœa for many years. At this stage he presents the clinical picture of chronic bronchitis with emphysema. After many years the previously slight cyanosis increases until the complexion is almost black (hence the term *cardiacos negros*) and the dyspnœa also increases, though usually not in proportion to the cyanosis. Hæmoptysis is common and, according to Laubry and Thomas,[13] may occur before the development of extreme cyanosis. It is then, in the absence of evidence of the usual causes of hæmoptysis, said to be a valuable early symptom of syphilis of the pulmonary artery. Polycythæmia is present. The right side of the heart is enlarged, and X rays show dilatation of the pulmonary artery. After two to five years in this stage the patient dies of heart failure, with or without œdema. Autopsy shows lesions of the large and small branches of the pulmonary artery, interpreted as syphilitic. The lungs show chronic bronchitis and emphysema, and the right side of the heart is greatly hypertrophied. Arrillaga[1] thinks that a non-specific bronchitis, by increasing the strain on the pulmonary artery, localises the syphilitic process there, while Escudero[6] holds that in true Ayerza's disease the bronchitis is also syphilitic.

The clinical picture is obviously similar to that of heart failure secondary to chronic bronchitis with emphysema. The intense cyanosis, out of proportion to the other symptoms, has often been noticed. Escudero himself says that all cases of chronic lung disease with heart failure are very cyanosed and are therefore *cardiacos negros* but, in the absence of the typical syphilitic lesions in the bronchi and pulmonary arteries, are not cases of Ayerza's disease; while the lesions of Ayerza's disease may occur in patients who are not *cadiacos negros*. He says that Ayerza's disease can be distinguished from the heart failure of simple emphysema by the presence of polycythæmia and hypertrophy of the right side of the heart, a statement with which it is difficult to agree, since cyanosis of whatever origin may be associated with polycythæmia, and right heart hypertrophy is a commonplace in autopsies on cases of heart failure secondary to simple emphysema.

ÆTIOLOGY.

Although in some of the cases reported, such as those of Konstam[10] and Hare and Ross,[7] the pulmonary artery lesion is probably syphilitic, while in others, such as that of Warthin,[19] the syphilitic origin is proved by the discovery of the *Treponema pallidum* in the lesion, yet in many cases the part played by syphilis is very doubtful. In particular some French authors, such as Tremolières,[17] Caussade,[3] and Laubry,[11] have described cases in which endarteritis of the small branches of the pulmonary artery was found in patients with mitral stenosis and no clinical evidence of syphilis and in the one case where this was mentioned with a negative Wassermann. Syphilis was diagnosed because of the nature of the arterial lesions, though this alone seems inadequate, since endarteritis obliterans may occur in many conditions other than syphilis. In the following case there was very marked endarteritis of the smaller pulmonary artery branches in a case of

mitral stenosis where there can be no reasonable suspicion of a syphilitic factor.

CASE 1.—A woman, aged 24, at her death in September, 1929, had her first overt attack of rheumatic fever at the age of 14. She became short of breath in 1925, and a little later her ankles began to swell. She became steadily worse until she was admitted to the Queen's Hospital under Dr. J. G. Emanuel in September, 1929. She was pale and somewhat cyanosed. There was great dyspnœa and marked œdema with ascites. The heart was regular and showed the signs of mitral stenosis. She died six days after admission.

Autopsy showed the body of a small poorly developed young woman, with marked œdema of the legs and ascites. The lungs were congested and œdematous. The main intrapulmonary branches of the pulmonary arteries showed fatty atheromatous patches. The heart weighed 420 g. and was greatly enlarged owing to dilatation of all the chambers especially the auricles, and hypertrophy of the ventricles, especially the left. There was a typical mitral stenosis, the orifice being reduced to a small slit. The aortic cusps were a little thickened, but the valve was competent. The aorta was narrow, and its intima was smooth and showed no lesion of any sort. There was no evidence of recent rheumatic infection. The organs showed chronic venous congestion.

Microscopically, the small branches of the pulmonary artery were greatly thickened (Fig. 1). There was much peri-arterial fibrosis. The media was rather thickened. The intima was greatly thickened and was often thicker than the media. It consisted of fibrillar, fairly cellular connective tissue, sometimes with multiplication of the internal elastic lamina. Some of the vessels were almost completely occluded. The medium-sized vessels showed similar but less marked changes, and the intimal thickening was less uniform. The lung tissue showed much peribronchial fibrosis. The alveolar walls were thickened and there was much catarrh of the alveolar epithelium. There were many areas of collapse with fibrosis and much proliferation of the alveolar epithelium. The appearances were suggestive of a chronic pneumonic process, perhaps of rheumatic origin.

Thrombosis of the Pulmonary Artery.

Thrombosis may occur in syphilitic aneurysms of the pulmonary artery, and is common in the small aneurysms frequently present in tuberculous cavities. It may also occur in syphilis of the pulmonary artery without aneurysm formation. Such cases have been described by Cheney[4] and Clarke.[5] Laubry and Thomas[12] describe a type of syphilitic pulmonary artery disease in which the symptoms from the onset are those of thrombosis with infarction. The thrombosis usually involves the small arterial twigs, but in McPhedran and Mackenzie's case[14] the larger branches were thrombosed, though here the syphilitic nature of the process was rather doubtful. Thrombosis of the small twigs may also occur in "primary sclerosis," as in Bacon and Apfelbach's case.[2] Occasionally pulmonary thrombosis is due to the invasion of the artery by tumour. In the case of a youth of 18 suffering from carcinoma of the testicle, with secondary deposits in the lungs, the branch of the pulmonary artery to the left lower lobe was plugged by thrombus. Microscopically, the artery wall was seen to be infiltrated by growth and many tumour cells were mixed with the thrombus in the lumen. It is noteworthy that this patient was pale, not cyanosed, and showed no special respiratory embarrassment. A rare form of thrombosis of small twigs in pneumonia has been described by Keefer.[9] The thrombosis causes areas of "aputrid pulmonary necrosis," which give the X ray appearances but not the symptoms of pulmonary abscess. Posselt[15] and Kauffmann[8] state that thrombosis is not very uncommon in pulmonary atheroma secondary to emphysema and mitral stenosis, and several examples of thrombosis of fine twigs have been recorded in the cases of endarteritis complicating mitral stenosis. Laubry and Thomas[11] attribute the hæmoptysis which is so common in mitral stenosis to thrombosis of small branches of the pulmonary arteries.

Thrombosis of large branches in cases of "secondary pulmonary artery sclerosis" seems not to have attracted much attention, and therefore the following cases seem worthy of record, especially as in one of them the thrombosis seemed to be the immediate cause of death.

CASE 2.—A woman of 58 had had a winter cough for years. For the last year she had become increasingly dyspnœic, and for a few weeks there had been increasing œdema of the legs. On admission she was very dyspnœic, cyanosed, and œdematous. The heart was enlarged (right border 2·7 and apex 4·5 inches from mid-line) and the lungs showed signs of chronic bronchitis and emphysema. She died six weeks after admission.

Autopsy showed the body of a fat woman with œdema of the legs. There were recent thrombi in the right femoral and left subclavian veins. The heart was enlarged (weight 530 g.) owing to hypertrophy and dilatation of the right ventricle. The valves were normal. The lungs showed chronic bronchitis and emphysema, with congestion and œdema. There was a large infarct in the right lower lobe. The main intrapulmonary arterial branches showed many patches of atheroma. The artery to the right lower lobe was almost completely blocked by pale adherent thrombus. The medium-sized vessels throughout the lung were extensively thrombosed. The other organs showed only chronic venous congestion.

Microscopically, the main artery to the right lower lobe shows change in all its coats. The adventitia shows hyaline fibrous thickening, with foci of lymphocytic infiltration. The media, except where it is thinned opposite the patches of atheroma, is of normal thickness. It shows much hyaline degeneration and its elastic fibres are much diminished in number, especially next to the intima. The intima is generally slightly thickened and shows numbers of typical atheromatous patches. The lumen is almost completely blocked by thrombus consisting chiefly of fibrin. The vessels of diameter 5–7 mm. show similar changes. Many contain old thrombus with early organisation (in growth of new capillaries and fibroblasts). The small arteries show perivascular fibrosis and hyaline intimal thickening, with narrowing of the lumen.

The pulmonary thrombus was obviously much older than that in the peripheral veins, so that it is improbable that it was of embolic origin. In none of the other cases was there any obvious source of embolism.

CASE 3.—A woman of 49 had had rheumatism in childhood. She had had a cough for years, with frequent slight hæmoptyses. For seven months she had been short of breath. She was fat, very dyspnœic, and cyanosed. The arms and legs were œdematous. The pulse was rapid but regular. The heart's apex was 7″, and its right border 2″ from the mid-line. There was an apical systolic murmur. The X ray showed a dense shadow in the lower half of the left lung field. She died a week after admission.

Autopsy showed the body of a fat œdematous woman. There were a few ounces of serous fluid in the pleuræ. The lungs were congested and œdematous, and showed chronic bronchitis and emphysema. There were hæmorrhagic infarcts in both lungs. There was a recent clot in the artery to the right lower lobe, and old adherent thrombus blocked the artery to the left lower lobe. The heart (weight 540 g.) was enlarged owing to hypertrophy and dilatation of both ventricles, especially the left. The myocardium showed patchy fibrosis. The mitral cusps were short, thick, and stiff, but the orifice admitted two fingers. There was marked coronary atheroma. The other organs showed chronic venous congestion.

Microscopically, the artery to the left lower lobe shows hyaline degeneration of the media and uniform hyaline intimal thickening, without atheromatous patches. The lumen is occluded by thrombus, old, fibrinous, and showing early organisation with the ingrowth of new capillaries at the edges; it is more recent in the centre. The small arteries show marked fibrous intimal thickening, with narrowing of the lumen. The lung tissue shows emphysema and congestion.

CASE 4.—A man of 58 was suddenly seized in July, 1927, with dyspnœa, which has persisted ever since. On admission in February, 1929, he was orthopnœic and generally œdematous. The heart's apex was 5¼″ from the mid-line. Auricular fibrillation was present. There were signs of bronchitis, with blood-streaked sputum. He died four days after admission.

Autopsy showed moderate œdema of the legs and marked ascites. The lungs were congested and œdematous, and showed chronic bronchitis and emphysema. The pulmonary arteries were dilated, with many atheromatous patches and a little adherent clot in the main branches. The heart (weight 680 g.) was much enlarged owing to hypertrophy

of both ventricles, especially the left. The valve cusps were normal, but the mitral and tricuspid rings were much dilated. The coronary arteries showed much atheroma. The other organs were congested.

Microscopically, the large branches of the pulmonary artery show typical atheroma. Some are completely blocked by thrombus, old at the edges, recent in the centre, and showing early organisation, with the ingrowth of new capillaries. A branch about 5 mm. in diameter, leading off from one of these, is blocked by organised and recanalised clot (Fig. 2). The small arteries show some intimal thickening.

CASE 5.—A man of 56 was admitted to the surgical side of the hospital with symptoms of carcinoma of the stomach. There was no note as to his chest condition, and no mention of cyanosis. He died two weeks later, without operation.

At autopsy, the lungs showed marked chronic bronchitis and emphysema. Near the apex of the right lower lobe was a small wedge-shaped area resembling an imperfect infarct. The pulmonary arteries were a little dilated and showed a few atheromatous patches. The branch to the left lower lobe contained a little ante-mortem clot. The branch to the right lower lobe was blocked by firm adherent thrombus. The heart showed little change. There was a diffuse carcinoma of the stomach.

Microscopically, the large branches of the pulmonary artery show patchy atheroma, and many contain old thrombus showing early organisation with ingrowth of new capillaries. The small arteries show little change.

CASE 6.—A woman of 46 had had cough with blood-stained expectoration for 30 years, dyspnœa since 1915, and a sudden increase in the dyspnœa, followed by several large hæmoptyses, in 1921. On admission in May, 1928, she was orthopnœic, cyanosed, and very œdematous, with ascites and bilateral pleural effusions. The apex-beat was 4½″ from the mid-line. There was an apical systolic murmur. Auricular flutter was present. She died on June 16th.

At autopsy the heart weighed 570 g. The left auricle was dilated and hypertrophied. The left ventricle was about normal in size; the right was very greatly dilated and hypertrophied, its wall being much thicker than that of the left. The mitral valve showed extreme button-hole stenosis. The pulmonary arteries were dilated and thick-walled, and showed many atheromatous patches. A thrombus about 1½″ long, ¾″ broad, and over ¼″ thick was present at the beginning of the artery to the right lower lobe, and greatly narrowed its lumen. Its surface was smooth, and it was very firmly adherent. It was evidently of very long standing.

Microscopically, many of the small branches of the pulmonary artery appear normal, but some show fibrous intimal thickening. No histological examination of the thrombus was made, as the lung was kept for a museum specimen.

CASE 7.—A man of 60, the hospital carpenter, had had chronic bronchitis for many years. For a few months he had been slightly dyspnœic on exertion. On the morning of Dec. 5th, 1928, he was much more dyspnœic than usual, but he went to his work at the hospital, where after an hour he "fainted." He was seen within ten minutes by the house physician on duty, who found him collapsed and pale, with a feeble but slow pulse. Half an hour later he was much better. His temperature was 96° F., his pulse-rate 70, and his respiration-rate 32. The pulse was feeble. The apex-beat was 4½″ from the mid-line. There was never any cyanosis. He had four similar attacks during the day, and died in the last.

Autopsy showed the body of a thin old man. The pericardium was adherent to the front of the left ventricle. The heart (weight 370 g.) showed slight hypertrophy of both ventricles and dilatation of the right ventricle and auricle. The coronary arteries were atheromatous. There was no thrombus in the heart, and none was found in the peripheral veins. The lungs showed chronic bronchitis and great emphysema. The pulmonary arteries were dilated and atheromatous. The branch to the right upper lobe was blocked by firm adherent thrombus beginning about 2″ above the origin and extending for about 2″. The branch to the lower lobe was blocked for about 2″ by firm adherent thrombus. The branch to the left lower lobe was blocked by a softer, smaller, and more recent thrombus which, however, was also adherent and obviously ante-mortem. The branch to the upper lobe contained only agonal clot.

Microscopically, the artery to the right upper lobe (Fig. 3) shows typical atheroma. The lumen is completely blocked by thrombus, old at the edges, more recent in the centre, showing early organisation with the ingrowth of new capillaries and fibroblasts. The small branches show comparatively little change.

FIG. 1.

CASE 1.—A small pulmonary artery showing much intimal thickening and narrowing of the lumen. There is much pulmonary fibrosis. Stained with van Gieson and Weigert's elastic tissue stain. (×120.)

FIG. 2.

CASE 4.—Portion of a pulmonary artery 5 mm. in diameter, with lumen blocked by thrombus, most of which is converted into vascular fibrous tissue. Mallory's connective tissue stain. (×35.)

FIG. 3.

CASE 7.—Large pulmonary artery. Shows portion of an atheromatous plaque. Lumen blocked by thrombus which, over the patch of atheroma, is beginning to organise, as shown by the presence of numbers of capillaries. Mallory's stain. (×70.)

Comment.

Several examples of endarteritis obliterans of the small branches of the pulmonary artery associated with mitral stenosis, such as occurs in Case 1, have been described in the French literature. In Case 1 there was no evidence of syphilis, and although most of the French authors attribute their cases to syphilis, they adduce no convincing evidence. In Case 1 there was a very marked chronic pneumonic process, possibly of rheumatic origin, and it seems not unreasonable to suggest that this was the local chronic inflammatory process which determined the occurrence of the endarteritis. It seems possible that the early death from heart failure with a normal rhythm might

be due to the widespread disease of the small branches of the pulmonary artery.

Cases 2 to 7 differ from most of those which have been described, at least in the recent literature, in that the emphasis of the lesion is on the main intrapulmonary branches of the pulmonary artery and not on the terminal twigs. Atheroma of the main branches is very common in emphysema and in heart disease, especially mitral stenosis. There may also be fibrous thickening of the intima of the small branches, with narrowing of their lumina. It seems fair to attribute these changes, in part at least, to increased pulmonary blood pressure, perhaps combined with malnutrition due to a deficient blood-supply. Thrombosis of the large branches of the pulmonary artery seems not to be rare in these circumstances, as six cases were found in the pathological department of one hospital in about 18 months, though the condition has attracted very little notice, perhaps because it rarely causes any change in the patient's clinical state. Only cases showing indubitable evidence of age, chiefly in the form of organisation of the thrombus, have been accepted. The symptoms seem to depend partly on the previous condition of the patient, partly on the size of the branch obstructed. Most of the patients were already suffering from congestive heart failure, and in these the thrombosis produced very little noticeable alteration in the symptoms. In cases with no previous heart failure the symptoms are quite different from those of Ayerza's disease. In some, as in Case 5 and the case in which the thrombosis was due to invasion of the pulmonary artery by growth, there are no symptoms; dyspnœa, cyanosis, and œdema are absent. In Case 7 the symptoms were attacks of prostration, with subnormal temperature, pallor (not cyanosis), and a very feeble slow pulse, ending fatally. It seems impossible to avoid the conclusion that the thromboses were the cause of death, especially as no other fatal lesion was found. It seems probable that some thrombus had long been present over the atheromatous patches and had begun to organise. Possibly the dyspnœa from which the patient had suffered for some months might be due to the narrowing of the branches of the pulmonary artery. It seems reasonable to suggest that the "fainting attacks" on the day of death might be due to the sudden complete blockage of successive branches by rapid thrombosis. The absence of cyanosis is noteworthy, in comparison with cases of Ayerza's disease. In the case of progressive pulmonary artery thrombosis described by McPhedran and Mackenzie, cyanosis is not mentioned.

It thus seems that thrombosis is not an uncommon event in pulmonary atheroma associated with emphysema and heart disease, but that it is usually to be regarded as a terminal complication which may hasten the end by increasing the load on the right ventricle, and is otherwise of little clinical importance. Occasionally, however, even in patients but little incommoded by their pulmonary or cardiac complaint, a widespread thrombosis may occur gradually, probably over a period of several weeks, and then a sudden thrombosis completing the occlusion of the narrowed arteries may prove fatal in a few hours.

Summary and Conclusions.

(1) Endarteritis obliterans of the small pulmonary artery branches, in a case of mitral stenosis, is reported. There was no evidence of syphilis. It is suggested that a chronic pneumonic process, possibly of rheumatic origin, may be the local determining cause of the lesion. (2) Atheroma of the main intrapulmonary branches of the pulmonary arteries is common in heart disease, especially mitral stenosis and in emphysema. It is sometimes accompanied by intimal thickening in the smaller arterial twigs. (3) Six cases of thrombosis of large branches of the pulmonary artery in cases of emphysema or heart disease are described. The condition is evidently quite common. In all cases except one (in which there was no histological examination of the thrombus) there was microscopical evidence of organisation of the thrombus. Usually the patients were already suffering from advanced congestive heart failure, and the thrombosis then produces no obvious symptoms, though no doubt it hastens the end. Sometimes it occurs in patients with only slight dyspnœa on exertion, and it then seems possible that perhaps the gradual narrowing of the pulmonary arteries by thrombosis contributes to the production of the symptoms of heart failure; moreover, in such cases the sudden completion of the pulmonary artery occlusion by acute thrombosis may occur, and prove fatal in a few hours.

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TREATMENT OF ANAL FISSURE

BY INJECTION OF QUININE UREA HYDROCHLORIDE.

BY CHRISTOPHER HOWARD, M.R.C.S. ENG.

ANAL fissure constitutes one of the most tiresome and one of the most painful minor ailments to which human beings are liable, and any advance in its treatment must be met more than half-way and welcomed. Until recently the only treatment other than palliative measures—and they, admittedly, were usually futile—consisted in surgical interference. In the great majority of cases such interference, with the object of setting the ulcer at rest, met with undoubted success. There are still, however, great objections to this treatment, firstly that there is a small, but very real risk of some degree of permanent incontinence; and secondly that fairly deep general anæsthesia is required for the operation, and it has always seemed desirable that, wherever possible, a general anæsthetic should be avoided. No doubt the risk attached to the anæsthetic is minute, but there is a risk; and if we can substitute a method of treatment in which there is absolutely none, and which is undoubtedly efficacious, we are certainly justified in doing so.

An article dealing with this form of treatment was published last year in France.[1] According to Dr. Bensaude and his co-workers, the method had been in their thoughts since 1921 and had been

actually put into use nine years ago, but had been abandoned because of the painful reactions encountered. These reactions were doubtless due to the employment of solutions which were too strong, or to the use of too great quantities of solution, and the method therefore fell into disrepute. It was only revived in 1929.

Frank Yeomans, in his masterly work on proctology,[2] says that in 1924 A. B. Graham reported the use of quinine urea hydrochloride in 30 cases, 27 of which were said to be cured. In 1926, at the American Proctological Society, Graham reported 128 further cases with complete relief except in 7 per cent., and Yeomans takes the view that it is possible to effect a cure in 77 per cent. of cases. The best results are obtained in acute cases, and this is only to be expected. Long-standing inflammation with surrounding induration and the deposition of much fibrous tissue mean a cutting-down of the local blood-supply and a diminished power of healing. But the fact that the method is definitely more successful when used in acute cases need not lead us unduly to condemn it, for when it becomes generally known than an acute fissure can be made to heal without operation, only a small proportion of sufferers will defer the treatment, and so in time a chronic anal fissure will become a proctological curiosity.

TECHNIQUE.

The same solution is used as for injecting hæmorrhoids.[3] I get Messrs. Parke Davis and Co. to put the solution up for me in ampoules, and this is perhaps the most satisfactory way, for it ensures its continued sterility. Moreover, it is all-important that it should be accurately and properly dispensed.[4]

The patient should be examined and the necessary injection should be performed in the left lateral position. The French school recommend the genu-pectoral position, but as the vast majority of fissures are posterior the injection can be the more easily given with the patient lying on the left side. The patients are usually apprehensive owing to the acute pain which they have lately suffered. It cannot, therefore, be overstressed that absolute gentleness is essential. The gentleness in preliminary approach, in separating the buttocks, and in touching the affected area, must be complete. All the peri-anal skin should be gently swabbed with French tincture of iodine. It may be because of habit, but I believe that this French tincture is a better skin antiseptic, and if it does come into contact with mucous membrane it is less irritating than the English tincture. I use a 2 c.cm. syringe, because it is more convenient to hold than the smaller syringes, and a Number 17 gauge needle. Finer gauges can be obtained, but they are no less painful in use, are more liable to break, are more easily clogged, and have, as far as I know, no advantage over the 17 gauge.

The needle is inserted below the lower margin of the fissure, and one endeavours to choose a distance so that the body of the needle when running under the edge of the fissure does not cause any alteration in the outline of the fissure margin. The needle is gently pushed forward until the tip is estimated to be under the commencement of the fissure, and is then quickly pushed forward again, the plunger of the syringe being depressed at the same time, the ideal being to inject one minim of solution for each millimetre of forward progress of the needle. It is necessary to practise this beforehand, and a sufficiently accurate technique can be obtained with any form of soft leather, such as an old tobacco pouch or the leather lining of a hat. Few practitioners have any very great experience of intradermal injections and, owing to the contour of the peri-anal region, it is easy to place the injection too deeply in the subcutaneous tissue, with consequent pain and irritation and with no healing effect.

The actual injection will cause severe pain and therefore must be quickly performed. The severe pain lasts only a few seconds and then the local anæsthetic effect of the quinine urea hydrochloride begins to take effect and in a very few minutes all pain has gone. After the injection is made the fissure is swabbed with some antiseptic solution. Yeomans recommends a 20 per cent. ichthyol ointment, but Bensaude uses pure ichthyol. Personally, I find the most satisfactory solution to be the following: French tincture of iodine and compound tincture of benzoin 1 oz. each; with camphor, chloral hydrate, and phenol, ½ oz. each. This can be applied not only to the fissure but to the surrounding skin, and has a pleasantly soothing and antiseptic effect.

After the injection it is essential to explain to the patient the paramount need for a soft stool, and though there are plenty of alternatives on the market I do not think it is possible to obtain a better effect than that produced by taking a tablespoonful of liquid paraffin three times a day. It should be impressed upon the patient that this should only be used until the fissure has completely healed, and that the paraffin must then be permanently discontinued. If the patient, for reasons of taste or idiosyncrasy, is unable to take paraffin, normacol or psyllium seeds will provide an efficient substitute.

If the first injection is not successful another may be given three days later, and this again may be repeated in a further three days. The vast majority of fissures yield to the first treatment and so far, in my limited experience, no fissure has required more than three treatments, but it is conceivable that a very chronic fissure might need further treatment.

It should be realised by the operator that quinine urea hydrochloride is a caustic substance, and he must not let his zeal for cure outrun his discretion and allow this substance to *produce* fissures I have no personal experience of such a happening and I have seen no report of one, but I imagine that it would not be difficult to provoke a very real and painful anal fissure by the indiscriminate injection of a caustic substance. The method will soon fall into disrepute if over-enthusiasm or over-dosage leads to over-injection.

RESULTS.

The Table gives particulars of 14 patients who, at the time of writing, remain free from any sign of fissure:

No.	Age.	Rectal complications.	No. of treatments.	Last seen.
1	63	Prolapsing piles.	2	24/6/29
2	35	Internal hæmorrhoids.	1	3/6/29
3	30	Internal hæmorrhoids; polyp.	3	20/1/30
4	21	Pruritus.	1	26/6/30
5	46	—	1	13/6/30
6	72	Internal hæmorrhoids.	1	27/12/28
7	40	Pruritus; constipation.	3	15/11/28
8	60	Sentinel pile.	2	22/9/30
9	52	Internal piles.	3	1/5/30
10	45	Prolapsing hæmorrhoids.	2	24/6/30
11	33	—	1	21/6/29
12	49	Pruritus.	1	12/5/30
13	29	—	1	15/6/30
14	17	—	1	4/12/29

In the above list I have followed my usual custom of writing the word "hæmorrhoid" when hæmorrhage was a feature of the case and "pile" when no history of bleeding was vouchsafed.

NOTES ON THE CASES.

CASE 3.—This man complained of sexual impotence. He had been suffering from a recurrent anal fissure for many months. The cure of the fissure completely cleared up the impotence.

CASE 6.—This man had been unable to move except with great care for more than three years. In his last letter he says that at the age of 72 he now runs to catch an omnibus.

CASE 8.—There was a large hysterical element in this woman. Since her treatment she has had no acute pain, but she refuses to believe that the anus is now normal. As she seems to enjoy treatment she is being treated by an Abram's Box. In reply to a questionaire she says that she has no pain but is "conscious of her rectum." She has great faith that the Abram's Box will be of assistance, more especially as whatever local treatment she has is being enforced by "treatment directed towards the spleen!"

CASE 9.—This woman had previously been treated for internal hæmorrhoids by injections of carbolic in oil. She had found this treatment exquisitely painful. Whether it played any part in the later production of her fissure I am unable to say.

CASE 10.—This woman received no benefit from her first injection, and before the second injection I gave her a local injection of procaine and to some extent stretched the rectum with my fingers. I do not think that this divulsion, which obviously could only be lightly performed, played any part in the ultimate cure of the fissure.

CASE 13.—This man never had any pain until half an hour after defæcation. He then had acute pain for over an hour, and he had tried treatment by suppositories, ointment, and diathermy. One injection has led to his complete, and apparently lasting, cure.

It is hoped that in course of time more reports will be published on the effect of this method. It is only when many more reports are to hand that we shall be able to say whether it will hold the field. Meanwhile it is permissible to stress once again the pain which anal fissure can cause. Although, perhaps, in the majority of cases this is short-lived, in some cases it will last for seven or more hours, and will vary in its intensity from a local ache, always described as resembling toothache, to an excruciating agony. Such a small local lesion can affect not only physical activity but, if left untreated, gives rise to chronic constipation, general ill-health, and neurasthenia. Like the injection treatment of hæmorrhoids the treatment here advocated is ambulatory, and, carefully performed, has no contra-indications.

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CLINICAL AND LABORATORY NOTES

AN UNUSUAL CASE OF TETANUS.

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IN the case here related tetanus toxin gained access through an inoculation site within the cavity of the nose, and consequently the symptoms were of the type described as cephalic or hydrophobic tetanus, but with certain modifications. There was never any real question of hydrophobia, though the possibility crossed one's mind at an early stage. Inability to swallow was due simply to pharyngeal spasm without any actual horror, and salivation was absent.

The patient was a boy, aged 3, the son of a publican, who was brought to Mr. C. S. C. Prance on account of difficulty in swallowing. He had been running about and playing as usual until the day he was brought, though the difficulty had been developing gradually for four days. During this time slight twitching of the right side of the nose and mouth had been noticed. There had been no complaint of sore-throat.

When first seen the child was extremely nervous and resented any examination, but trismus was at once observed making it impossible to examine the throat. On admission to a nursing home the temperature was 99·2° F. and the pulse-rate 134. The right palpebral fissure was smaller than the left; the pupils were equal and reacted normally. There was some rigidity of the neck, which, however, was easily overcome. Tendon reflexes were all very brisk, but were equal on the two sides. There were no enlarged lymph nodes in the neck, and nothing on which to comment in the condition of the heart, lungs, or abdominal viscera. The urine was free from albumin throughout. The throat and nose were examined under an anæsthetic, and a crust was removed from the right nostril. Though nothing else was found cultures were made which proved negative to diphtheria. During induction of the anæsthetic the child had a severe convulsion with general rigidity and cyanosis.

On the following day generalised spasmodic convulsions were easily provoked, during which the teeth were firmly clenched, the arms, legs, and back became rigid, the head was retracted, and the position of opisthotonos was assumed. The chest was fixed in the inspiratory position and cyanosis became extreme. The tongue was bitten once and flatus was passed, but never urine. After two or three minutes the spasm passed off, air was admitted to the chest, and cyanosis abated, but some degree of rigidity remained. The risus sardonicus was present. One such convulsion occurred during the night and another was observed on the morning after admission; the diagnosis was considered sufficiently definite.

Lumbar puncture was performed and 3000 units of antitoxin were injected, a further 3000 units being given subcutaneously. The fluid withdrawn presented no abnormality but was under considerable pressure, 30 c.cm. being obtained in a very short time. After washing out the rectum grs. 20 of chloral hydrate were given in saline, and were retained. Similar doses of chloral were given each night, and occasionally by day as well, and on five occasions it was necessary to give morphia in doses up to gr. 1/8. For the first two days the only nourishment was glucose by the rectal route, but on the third day the spasm in the masseters relaxed enough to attempt oral feeding, which became easier as time went on, and fluid feeds up to 8 oz. soon became possible. At first attempts to feed by the mouth induced spasm of the pharynx. All sources of external irritation were removed by darkening the room, putting down a thick carpet, preventing noisy closure of the door, and so on.

Serum was given daily for five days intrathecally, subcutaneously, or both, and convulsions were notably fewer after its administration, and on some days were completely absent. The slight general rigidity, however, persisted. After the first day all tendon reflexes were abolished. The temperature varied between 101·8° and normal, and the pulse-rate between 144 and 88. There was never any anxiety on the score of heart failure though frequently the convulsions were alarming. On the ninth day after admission, as spasm was still present, it was decided to explore the nose again on the assumption that the site of inoculation was in the right nostril. A general anæsthetic was given, and after the removal of several more crusts Mr. Prance found a small linen-covered shirt button fairly firmly impacted beneath the inferior turbinate.

Spasm was relaxed in a few hours, there were no more convulsions, and from now onwards there was no further anxiety for the future. No more serum was given and in five days—the 14th after admission and the 18th from the first symptom—the child returned home. Convalescence was rapid, and when seen a month later the boy seemed quite well except

for a slight shuffling in his gait. The tendon reflexes had returned.

It is to be regretted that a more thorough examination of the nose was not made sooner; had it been made the duration of the illness would have been shortened. Failure to isolate *Bacillus tetani* from cultures was disappointing, but I am confident of the correctness of the diagnosis, quite apart from the control of the symptoms obtained by administration of the appropriate serum; 21,000 units were given and no rash followed.

The points which make the case worth recording are: (1) Age of the patient. According to most authorities the chances of recovery at the age of 3 are few. (2) Site and vehicle of inoculation. Although children will insert all sorts of foreign bodies into the nostrils I can find no other record of tetanus arising in this manner. (3) The incomplete picture of cephalic tetanus. Stiffness of the neck and jaws were present but there was no paralysis of the muscles supplied by the facial nerve. This, when present, is supposed to be due to compression of the swollen nerve in its bony canal. The site of inoculation was in the area of supply of the second division of the fifth nerve, and the only effect on the facial nerve was one of stimulation, shown by twitching of the nose and angle of the mouth before spasm became general, and narrowing of the palpebral fissure by stimulation of the orbicularis palpebræ. (4) Complete cessation of symptoms after removal of the cause. (5) Absence of nasal discharge which would have pointed more clearly to it.

A CASE OF PULMONARY SARCOMA.

By O. W. Roberts, M.D., M.S. Lond., F.R.C.S. Eng.,
ASSISTANT MEDICAL SUPERINTENDENT, ST. GILES'S HOSPITAL, CAMBERWELL.

A MARRIED woman, aged 35 years, was admitted to St. Giles's Hospital on Dec. 27th, 1929. She had enjoyed normal health until a fortnight before admission, when she had felt "run down" and had begun to have headaches. On admission she complained of severe headaches, general weakness, and impairment of memory; apart from these she had no symptoms. Clinical examination suggested a right-sided cerebral tumour associated with rapidly increasing intracranial pressure. A decompression operation was suggested, but the onset of signs of pulmonary œdema and the presence of dullness on percussion with absent breath sounds over the posterior part of the right lower lobe contra-indicated surgical interference. Intracranial symptoms increased and the patient died on Jan. 12th, 1930, one month after the onset of the first symptom.

Post-mortem examination.—The whole brain was œdematous and the convolutions were flattened. On section the cerebral and cerebellar hemispheres were found to be studded with numerous nodules varying in size from a pea to a plum. The nodules were situated in the white matter of the brain, being separated from the cortex by a narrow zone of white matter. Macroscopically they appeared to consist of soft vascular tissue which could be shelled out quite easily from the white matter, leaving a smooth depression. The larger nodules contained pus-like fluid from which a pneumococcus was cultured.

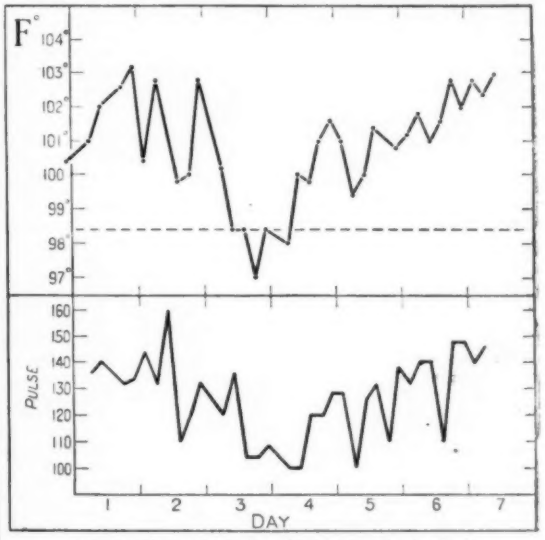
The lower lobe of the right lung was adherent to the diaphragm and to the chest wall posteriorly; on section a hard mass of new growth having irregular edges was found in the posterior part of the right lower lobe. Dilated bronchi containing purulent material were found in the tumour, and the macroscopic appearance suggested bronchial carcinoma. The other organs were apparently normal, and although a careful search was made no other deposits of new growth were found. Microscopic examination of specimens from the brain and lung showed a round-celled sarcoma.

The interesting points in this case are: the extremely short clinical history, the absence of any lung symptoms, and the distribution of the metastases. Intracranial abscesses complicating intrathoracic suppuration usually show a similar distribution to the metastases found in this tumour.

CEREBRAL HÆMORRHAGE FOLLOWING MENINGITIS IN A CHILD.

By L. I. M. Castleden, M.D. Lond.,
ASSISTANT MEDICAL OFFICER, HIGHGATE HOSPITAL.

"Before the fifth decade cerebral hæmorrhage is rare," observes Osler, who further states that Holt had seen only one case under 10 years of age. In an investigation recently undertaken at the Hospital for Sick Children into cerebral hæmorrhage in children under 12, Sheldon [1] was able to find only 50 cases in his analysis of 10,150 consecutive autopsies. The comparative rarity of the condition therefore seems



Temperature and pulse chart from admission to hospital on April 20th.

to justify the publication of the following notes of cerebral hæmorrhage in a child 1 year of age, additional interest being lent to the case by the fact that meningococcal meningitis was the possible precursor.

ACCOUNT OF THE CASE.

A boy, aged 1 year, was admitted to Highgate Hospital on April 20th, 1930, with a history of persistent vomiting and obstinate constipation for three weeks. During the preceding few days the child had frequently put his right hand to the right side of his head. On the day before admission there had been twitching of the left side of the face and of the left arm. There had been no vomiting or convulsions.

The birth had been Cæsarean. There had been no previous illness and the child had been quite well up the onset of vomiting. There was no family history of tuberculosis or venereal disease.

On *examination* the child was conscious, well-developed, and pale, but not dehydrated. The head was retracted and turned to the right. The frontal veins were somewhat

[1] Sheldon, W. P. H.: Quart. Jour. Med., 1926–27, xx., 353.

prominent. Occasionally he put his right hand to his right ear, and he resented being touched or moved. There was no external evidence of trauma. The mouth, throat, ears, and mastoid regions were normal. A few small, firm, discrete glands were palpable in the posterior auricular and suboccipital regions of both sides. No abnormal physical signs were detected in the examination of the heart, lungs, or abdomen.

The head was retracted, with rigidity of neck and back muscles. The pupils were equal and reacted to light. There was slight internal strabismus of the left eye, the ocular movements and vision being apparently good. There was left hemiplegia, maximal in the arm, which was adducted and flexed at elbow and wrist, with the forearm pronated. There was also rhythmical twitching, with a frequency of about 60 per minute, in the muscles of the left shoulder and arm and, to a lesser degree, in those of the left side of the face and thorax, and occasional arrhythmical twitches in the muscles of the left side of the abdomen and right side of the face. The reflexes were normal on the right side; on the left side those of the arm were uncertain but the knee- and ankle-jerks were definitely increased and the plantar response was extensor. Kernig's sign was negative. Abdominal reflexes were absent on the left side. The cerebro-spinal fluid was under increased pressure clear and faintly tinted yellow.

A provisional diagnosis of tuberculous meningitis, complicated by thrombosis in the right cerebral hemisphere, was made.

Course of Illness.—On April 21st, except that the twitching had lost its rhythmical character and occurred at infrequent intervals only, there was no change. Lumbar puncture yielded a fluid with the same characteristics as before. From this date until April 25th no alteration in the patient's condition occurred. Twitching then ceased entirely and he seemed slightly better. Lumbar puncture was not again performed. On April 26th he went into coma. The frontal veins were more prominent and there was no twitching. Both legs were now rigid, with increased tendon reflexes and bilateral positive Babinski's sign. The right abdominal reflexes were present and brisk, the left showed a very faint response. Physical examination was otherwise as before. On April 27th, after two generalised clonic convulsions, there was generalised rigidity, with conjugate deviation of the head and eyes to the right. Death occurred shortly afterwards.

Post-mortem examination.—Two soft enlarged glands were found at the bifurcation of the trachea. The thoracic viscera were otherwise normal, as were also the abdominal viscera.

The brain was very soft, with flattened convolutions and engorgement of the meningeal vessels. There were a few small extravasations of blood on the surface of the hemispheres. Along the course of the middle cerebral vessels there was a gelatinous semi-opaque exudate, in parts frankly purulent. Purulent exudate was also present on the under-surface of the cerebellum, involving the medulla and the roof of the fourth ventricle. The base of the brain was free from exudate. Several of the superficial veins of the cortex were thrombosed, being distended, firm, and of a reddish-maroon colour. This was most marked in the middle cerebral veins, and of these the right middle cerebral was the most affected. The ventricles were distended with blood-stained fluid. In the substance of the right cerebral hemisphere, in the region of the lenticular nucleus, there was a recent hæmorrhage which extended outwards to the cortex and inwards towards the internal capsule, but which had not ruptured either on to the surface of the brain or into the lateral ventricle. The basal ganglia of the left side, and the undamaged parts of those on the right side, were studded with minute petechial hæmorrhages, which were also found, though less abundantly, throughout the substance of the hemispheres.

No definite thrombosis of the cerebral sinuses was found. Both middle ears were normal. No aneurysm or other abnormality of the cerebral arteries was discovered.

Dr. J. G. Forbes made the following report on the cerebro-spinal fluid:—

Cerebro-spinal fluid.—A clear, slightly yellow fluid yielding a fine clot and a visible deposit of blood-cells. Films from the cell deposit show, in addition to red blood-cells, no marked leucocytosis. The lymphocytes are in excess of the polymorphonuclear cells, but there is no evident absolute lymphocytosis. The teased clot does not show abundant cells; no organisms were seen, and no tubercle bacilli were found after a long search. Albumin, a heavy trace = 0·14 per cent.; globulin, ++; dextrose, faint trace; colloidal benzoin reaction, negative; cultures sterile.

These indications are not obviously in favour of tuberculous meningitis, although it cannot be excluded. The case is possibly a post-basic meningitis which has passed the acute stage, but no evidence of meningococcal infection can be found. The cell content, however, does not clearly point to an inflammatory process. The unilateral character of the physical signs might be due to a lesion localised in the right hemisphere—e.g., meningeal hæmorrhage or thrombosis; this diagnosis would accord with the changes present in the fluid—viz., excess of protein, blood-cells, and serum.

On material sent for examination Dr. Forbes made the following report:—

Microscopical examination.—The cerebellum showed marked congestion of the meningeal vessels. The inflammatory cell exudate of the meninges was composed chiefly of polymorphonuclear cells. Among the inflammatory cells were seen diplococcal forms in units, suggestive of the meningococcus, but not identified in groups or masses, nor appearing intracellularly.

The substance of the optic thalamus was scattered with small hæmorrhages.

Sections of material from both right and left Sylvian fissures showed thrombosed vessels with extensive hæmorrhage undergoing organisation and studded with blood crystals. The exudate on the meningeal surface consisted chiefly of polymorphonuclear cells, apparently with diplococcal forms, as seen over the cerebellar meninges. No trace of tuberculosis was seen in any section.

The diagnosis is possibly meningococcal meningitis (post-basic), resulting in blood infection and invasion of the cerebral vessel walls, this giving rise to thrombosis and consequent hæmorrhage into the substance of the cerebrum.

DISCUSSION.

If intracranial hæmorrhage following birth injuries and postnatal traumata be excluded, then thrombosis of the vessels of the brain, or of the sinuses and their tributaries, is the most common precursor of cerebral hæmorrhage in children. This thrombosis is either marantic or infective in origin, the marantic variety occurring most commonly in the superior longitudinal sinus whilst the infective may occur in any situation as a sequel of septic or tuberculous processes, but is most usually seen in the lateral sinus following suppuration in the mastoid. For these reasons it is easy to see why the commonest situation of intracranial hæmorrhage in children is meningeal. Of Sheldon's[1] 50 cases, 28 were extra-cerebral and 22 intra-cerebral, though arterial hæmorrhage and hæmorrhage following trauma were included in his series. Cobb and Hubbard[2] published, amongst other cases, one of cerebral hæmorrhage in a girl of 2¼ years of age following thrombosis of pial veins. In this case otitis preceded the meningitis.

As the notes of the case here recorded show, it was an unusual one in that meningococcal meningitis was the possible precursor, and also in the fact that the site of the large hæmorrhage was intracerebral. From the distribution of the paralysis the primary vascular lesion must have been one which affected, in addition to the lenticular nucleus, the region of the genu of the right internal capsule, giving the greatest functional disturbance in the left arm, less in the left side of the face and trunk, and least in the left leg. Its location was of further interest in view of the rhythmical nature of the twitching observed early in the course of the fatal complication, interference with the large-celled pallidal or motor system of the lenticular nucleus "releasing" sub-pallidal motor centres and producing muscular hypertonicity and rhythmic tremor of the rigid limbs.[3] The absence of convulsions, except as an almost terminal event, is also in favour of the thrombosis being initially intracerebral rather than cortical.

Thrombosis in the right internal cerebral vein could have produced the syndrome observed, by stasis of the circulation and anoxæmia in the right basal

[1] Cobb, F., and Hubbard, J. P.: Amer. Jour. Med. Sci., 1929, clxxviii., 693.
[2] Purves-Stewart, J.: The Diagnosis of Nervous Diseases, 1924, London, p. 16.

ganglia and internal capsule, the damage to the vessels so caused being the determining factor in the hæmorrhage found in this situation post mortem. Thrombosis in this vein, spreading backwards, later reaching the great vein of Galen and so obstructing the left internal cerebral vein as well, would account for the ventricles being distended with fluid, a condition found when the veins of Galen are occluded; these veins are formed by the junction of the venæ corporis striati with the choroid veins. The distension of the veins on the forehead is hard to explain in the absence of thrombosis in the superior longitudinal sinus. In marantic thrombosis of this sinus it is common to find, together with convulsions, distension of the veins of the scalp and of the nasal veins, and epistaxis. Possibly the raised intracranial pressure interfered with the cerebral venous circulation sufficiently to produce this sign.

Since the work of Charcot and Bouchard, the question of arterial cerebral hæmorrhage has been thoroughly investigated. Hæmorrhage from the capillaries and veins of the brain, however, seems to have received but little attention. The latter is either rare or is considered of small importance, the lesions being usually described as hæmorrhagic encephalitis. The encephalitis, if present, probably acts on the veins merely by thrombosis, hæmorrhage resulting from mechanical obstruction to the venous circulation, with increased venous pressure and local damage to the vessel wall from anoxæmia.

This case, then, suggests a rare complication of meningococcal meningitis and demonstrates the possibility of intracerebral hæmorrhage of venous origin at a site usually associated with arterial vascular lesions.

I wish to thank Dr. C. Thackray for permission to publish this case, and also Dr. J. G. Forbes for his kind consent to my including his pathological and histological reports from the London County Council Bacteriological Laboratory, County Hall.

MEDICAL SOCIETIES

ROYAL SOCIETY OF MEDICINE.

CLINICAL SECTION.

EXHIBITION OF CASES AND SPECIMENS.

AT a meeting of this section held on April 17th the chair was taken by Mr. C. P. G. WAKELEY, the President, who showed a case of old crush fracture of the lumbar vertebræ. The man, aged 47, had first been seen on March 3rd last, complaining of weakness and pain in the lumbo-sacral region for ten years. He was unable to pick up heavy objects from the ground. His only injury had been a fall at the age of 4. There was an old crush fracture of the third and fourth lumbar vertebræ, but no evidence of bone disease. Diathermy had been tried, but had made the pain worse. A week later, after resuming work, the pain had almost disappeared. The case showed that crush fractures did develop in children. The pain was probably due to osteo-arthritis. Mr. Wakeley also showed a large congenital lymphangioma in the face of a five-weeks-old baby which was doing well, and asked what, if anything, should be done. In his third case the patient was a woman aged 53, who had been operated on in 1902 for carcinoma of the right side of the tongue. The glands had not been infected, but the growth had been a squamous-celled carcinoma. The operation had not proved a mutilating one, and she was now in good health.

Mr. ERIC CROOK suggested that radium might be useful for the baby. Mr. Wakeley said he was inclined to wait, since these conditions sometimes cleared up. Sodium morrhuate had also been suggested.

Mr. C. W. G. BRYAN showed a case of painless swelling on the sternum in a girl aged 8½. X rays showed much new bone formation at the edges of a rarefied area beneath the tumour. No fluid had been obtained by aspiration, and other investigations had given negative results. The tumour had considerably increased in size after two weeks' treatment by potassium iodide.—The PRESIDENT thought the tumour was tuberculous.

DISEASES OF THE COLON AND RECTUM.

Mr. J. P. LOCKHART-MUMMERY showed five cases: a megacolon treated successfully by appendicostomy; a complete colectomy for adenomatosis; another case of adenomatosis with cancer; and two cases of rectal cancer cured by operation. The first patient had done very well as long as she had used the appendicostomy to wash out the bowel, but had relapsed when she allowed it to close. Reopening had again made her comfortable. In the second case the whole bowel had been involved up to the cæcum; the polyps in the rectum tended to recur, but could be controlled. The patient showed a remarkable family history, her mother and six aunts and uncles having died at an early age of carcinoma of the bowel. Her only other living relative also had adenomatosis. A similar family history had been traced in 13 cases, and they had all died of cancer. The rectal cases were two out of 58 operated on more than seven years ago and now alive and well.

Mr. CROOK agreed that adenomatosis often ended in carcinoma, usually, he thought, at the lower end. Colectomy left behind the part where polypi formed, and possibly the site of cancer.

Mr. G. E. PARKER asked to what extent the small bowel compensated in these cases, and whether the patients suffered from diarrhœa.

Mr. F. F. HELLIER asked what was the relation between polypi and carcinoma.

Mr. LOCKHART-MUMMERY replied that the lower end of the ileum dilated considerably. It would be ideal to remove the rectum too, but the ileum could not be implanted into the skin. He thought that all carcinomata of the bowel arose originally from simple tumours. Hyperplasia of the bowel showed itself, probably, as adenoma in early middle age. The growths in the rectum were more likely than others to become malignant.

LARYNGITIS IN SCARLET FEVER.

Dr. J. D. ROLLESTON, on behalf of himself and Dr. D. G. MACPHERSON, showed a case of tracheotomy for œdematous laryngitis in a woman with scarlet fever. The case had previously been mild, but after the sixth day the temperature had risen and adenitis had appeared. On the tenth day of the disease she had developed urgent dyspnœa, and tracheotomy had been performed in extremis. The wound had become very septic, and the temperature had continued high. The case had been further complicated by cellulitis of the neck and pleural effusion. The patient had twice received 40 c.cm. of antitoxin, but without benefit. The temperature had not returned

to normal until the forty-sixth day of the disease, but she had finally recovered. The case was unique in Dr. Rolleston's experience; any serious involvement of the larynx in scarlet fever was very rare, and tracheotomy was now hardly ever performed in fever hospitals. Pleurisy was also rare in scarlet fever, and usually went on to empyema.

Dr. W. C. GUNN said that recovery was extremely rare in cases of this kind, and described a patient he had seen; death had been due to septic pneumonia associated with pressure on trachea and bronchi. He had seen quite a number of cases of laryngitis in the course of scarlet fever, but they had been due to associated infections and not to the scarlatinal streptococcus.—Sir JAMES DUNDAS-GRANT said that the free incision through the œdematous tissues of the neck had played its part in saving the life of this patient.—Mr. CROOK thought it extraordinary that œdema of the larynx was not more common; œdema would be expected to track back from the inflamed glands.

Dr. ROLLESTON suggested that the reason was the reduced virulence of streptococci nowadays.

UNEQUAL PULSE: ANEURYSM.

Dr. D. E. BEDFORD showed a female patient, aged 49, in whom inequality of the pulse and pupils was associated with hypertension and aortic incompetence. The left radial and brachial pulses were scarcely palpable, and the blood pressure on that side was 100/75. The right radial and brachial arteries were thickened, and the blood pressure was 200/40. There was a similar difference in pressure at the knees. There were no signs of a collateral circulation. She seemed to have an occlusion of the left subclavian artery of at least ten years' standing. It was probably not syphilitic, since she had survived so long and the Wassermann reaction was negative. The only possibility seemed to be stenosis of the isthmus of the aorta, involving the left subclavian and left carotid orifices. There was no sign of aortic aneurysm on radiographic examination.

Sir JAMES DUNDAS-GRANT asked why the suggested condition should affect the left lower extremity.—Dr. F. STOLKIND mentioned a patient with syphilitic aortitis who had survived over 20 years, and described a case of unequal pulse due to syphilis.—Mr. HAROLD EDWARDS showed a case of popliteal aneurysm six months after the Hunterian operation. The aneurysm had been very large and adherent. The result had been very successful.—Sir JAMES DUNDAS-GRANT remarked on the safety of the operation.

Mr. CROOK showed a boy of 18 months who had been born with exomphalos, the cord containing a large portion of liver, but no intestine. The child had been left with wide divarication of the recti.

The PRESIDENT said he thought that the recti would come together in time.

Dr. W. L. HARTSTON showed a case of

GAUCHER'S DISEASE.

The boy was six years old, and had had a large abdomen from the age of 18 months. Two brothers were alleged to have had enlarged liver and spleen, one being stillborn and the other having died at the age of two. This boy was wholly pigmented a dirty brown, had clubbing of all the fingers, genu valgum, and pes plano-valgus. There was no ascites and no adenopathy. There was osteoporosis of all the skeletal bones, with marked thinning of the corticalis, but the pituitary fossa was normal. The skin showed increased pigment deposit in the basal-cell layer, and the blood-cholesterol was greatly raised—between 220 and 360 mg. per cent. Splenic puncture revealed groups of large clear cells without fat, like Gaucher cells.

Dr. HELEN MACKAY spoke of her difficulty in obtaining tissue by splenic puncture. She did not think this case was pure Gaucher's disease, as the patient was more backward than could be accounted for in this way.—Dr. ALICE KING said she had known other cases in which a family history had figured.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF SURGERY.

AT a meeting of this section on April 10th, with Mr. R. ATKINSON STONEY, the President, in the chair, Mr. SETON PRINGLE reported two cases of

POPLITEAL ANEURYSM.

Both patients were elderly men with marked hardening of the arteries. In one, the Wassermann reaction was positive and in the other negative. In each case there was marked circulatory disturbance of the leg—œdema, enlargement of veins, and duskiness of the skin—with, in one case, gangrene of the tips of three toes. Both had very severe pain.

In the first case the femoral artery in Hunter's canal, enclosed in its sheath, was divided between two ligatures. In the second the lumen of the vessel was occluded by multiple ligatures and the sheath was injected with alcohol. In both, the femoral vein was divided between ligatures. The usual post-operative precautions were taken, and the condition of the circulation in the foot on the affected side did not give rise to any anxiety after the first few hours. Both aneurysms ceased pulsating; as soon as the ligatures were tied they rapidly hardened, and gradually decreased in size. Both patients, 15 and 4 months after operation respectively, are in good general health and able to get about.

The PRESIDENT said that such aneurysms were comparatively rare. It had been formerly taught that, if the main artery and main vein were tied up together, gangrene was almost certain.

Mr. W. PEARSON said it was more difficult to get good results in pathological than in traumatic aneurysm. In a case of subclavian aneurysm, with a strongly positive Wassermann reaction, he had obtained an excellent result by distal ligation.

RUPTURED SPLEEN.

Mr. SETON PRINGLE also described a case of spontaneous rupture of the spleen, occurring in a healthy man who was riding round his farm. There was no history of even slight trauma. The patient was suddenly seized with very acute abdominal pain, slipped off his pony, and was found in a collapsed condition. On admission to hospital five days later it was thought that he had a minute duodenal perforation, with gradually extending extravasation. At operation the abdomen was full of blood, originating in a rupture of the spleen. The spleen was removed without difficulty, but the patient developed pneumonia and died.

GROWTH OF CONTRIBUTORY SCHEMES.—Last year the weekly contribution scheme of the Royal Berkshire and Associated Hospitals Aid Committee produced £31,136, an increase of £1223, notwithstanding that membership is now limited to those who are not liable to income-tax. At the same time the administrative expenses have been reduced.—The Salisbury and District Infirmary League collected £12,750, an increase of £700.

REVIEWS AND NOTICES OF BOOKS

Irradiation with the Alpine Sun Quartz Lamp,

including some account of Luminous Heat Rays. By HUGO BACH, Geh. Sanitätsrat, Dresden, with the assistance of Dr. FERDINAND ROHR. English edition. Edited by R. KING BROWN, B.A., M.D., D.P.H. Slough: Sollux Publishing Co. 1931. Pp. 218. 10*s.* 6*d.*

THE first water-cooled quartz lamp was introduced by the Hanau Quartz Lamp Co. in 1906, and a few years later, in 1910, Dr. Bach designed the air-cooled mercury-vapour lamp which achieved immediate popularity and became one of the standard models used in the practice of actinotherapy. In this small manual Dr. Bach gives his reasons for preferring quartz light treatment to other forms of ultra-violet irradiation. In order to raise the ultra-violet output of carbon-arc lamps very strong currents must be used. Lamps using 30 to 70 ampères are necessary to obtain satisfactory clinical results. This increases the cost of treatment and requires special electrical installations. Dr. Bach grants that these powerful carbon-arc lamps give very good clinical results and that in the domain of surgical tuberculosis they may outclass a single quartz lamp in their effect, the quartz lamp emission containing only a small proportion of luminous heat rays. He himself prefers, however, to use the quartz lamp for the treatment of all clinical conditions and to supplement the emission of his mercury-vapour lamp with that of a Tungsten filament lamp. The excellent results which have been obtained in the Finsen Institute with powerful carbon-arc lamps in the treatment of surgical tuberculosis will make most actinotherapists hesitate to change the method of treatment at present in common use, but a parallel series of cases treated (*a*) with carbon-arc lamps and (*b*) with mercury-vapour lamps supplemented by powerful Tungsten filament lamps, would be of great clinical significance. Dr. Bach's contention that it is important to be able to graduate the percentage amount of the rays of various wave-lengths in the total radiation will apppeal to everyone anxious to advance the science of actinotherapy, and it is a step towards the use of monochromatic light in clinical practice.

The views of the author on the treatment of phthisical patients are of special interest inasmuch as he may justly claim to be one of the earliest pioneers in this branch. He believes that, in general, phthisical patients are only suitable subjects for irradiation if their condition is stationary or tending to latency; the exudative and open forms of pulmonary tuberculosis need sanatorium treatment. In this latter group of patients, whether at an initial or advanced stage of tuberculosis, irradiation is a useful adjuvant; appetite and sleep are promoted, and the general condition may show marked improvement. Where there is failure to produce protective and curative substances in response to treatment, radiation will be just as useless in preventing death as is any other measure. Dr. Bach gives the impression that it is difficult to harm a phthisical patient by ultra-violet irradiation, if this is conducted cautiously and erythema-production is avoided. This is not a view generally accepted in this country nor is it held by all continental authorities.

This manual will prove of interest to all experienced workers in actinotherapy; it is less suitable for the student or the beginner since it represents a one-sided statement of the subject and is, moreover, not quite up to date, the references being mainly to work published before 1925. Dr. King Brown's translation is excellent.

Handbook of Anatomy.

By JAMES K. YOUNG, M.D., F.A.C.S., late Professor of Orthopædics, Graduate School of Medicine, Pennsylvania University. Seventh edition, revised by GEORGE W. MULLER, M.D., F.A.C.S., Associate in Anatomy, Jefferson Medical College. Philadelphia: F. A. Davis Company. 1930. Pp. 400.

JUDGING from the number of editions published since it was first written, this book appears to be in some demand in the country of its origin. It seems to us to be a well-produced work, composed solely from the point of view of examination needs. It cannot be taken as an indication of the standard of anatomy in the United States, nor yet as a book of reference on the subject. With these reservations we may say that it seems to be a reliable and useful member of its class, although we deplore the substitution of Latin names for perfectly good and descriptive English terms; yet they are better than such horrible expressions as *linguad* and *dorsad to.* A short but useful section on dental anatomy closes the book.

Anatomie und Pathologie der Spontanerkrankungen der kleinen Laboratoriumstiere.

Edited by RUDOLF JAFFÉ. Berlin: Julius Springer. 1931. Pp. 832. With 270 illustrations. R.M.98 (unbound).

THIS book should be of great value to laboratory workers. It contains articles by 29 different authors, many of whom are well-known pathologists, and is under the general editorship of Prof. Rudolf Jaffé, who has himself made considerable contributions to the text. It deals exclusively with diseases which occur naturally among the four species—guinea-pigs, rabbits, rats, and mice. The results of experimental infection with these diseases are also dealt with, though not exhaustively. The first or "special" part consists of 563 pages on the normal and pathological anatomy and the histology of the various organs, including the blood. In the 70 pages devoted to the urinogenital system are included the anatomy and physiology of the genital cycle in rodents, the phenomena of ovulation, pregnancy, placentation, and the senile changes in the genital organs. A treatise on the endocrine glands occupies 40 pages, and 25 are given to the skin. The chapter on the sense organs occupies 82 pages, which seems disproportionately long; but the information would be difficult to find elsewhere. That on the nervous system, by Dr. B. Ostertag (50 pages), is a very useful contribution. The "general" part deals with infection due to bacteria, protozoa, viruses, and metazoal parasites. These infective agents are described in some detail, but not always completely, and reference is made to fuller accounts in more specialised treatises. This part also includes a chapter by Dr. Fr. Heim and Prof. Ph. Schwartz on spontaneous tumours in rodents. The section on bacteriology is written by Prof. O. Seifried, and that on trypanosomes and spirochætes by Prof. H. Schlossberger and Dr. W. Worms. Prof. J. Fiebiger

deals with the other protozoal, worm, and arthropod parasites of each of the four mammalian hosts separately. There is also a chapter on normal and abnormal carbohydrate metabolism. The arrangement of the book has been difficult, and appears in some places to be rather illogical, but an excellent index makes it easy to find any given subject. The illustrations, macroscopic and microscopic, are well reproduced, and some are original. On the whole the descriptions of anatomy and pathology are clear and informing. Considerable familiarity with English, American, and French work is shown, and full references are given.

A work of this kind has been much needed, but, as Prof. Jaffé realises, the inclusion of the diseases of monkeys and birds, if not of dogs and cats, would have greatly added to its value. In the limited field which it covers it is without a rival, and its publication will be welcomed.

Elementary Biology for Matriculation and Allied Examinations.

By MARY E. PHILLIPS, B.Sc., and LUCY E. COX, B.Sc. London: University of London Press. 1931. With 282 text-figures. Pp. 465. 7*s*. 6*d*.

IF matriculation students have to know all that this book tells them about animals and plants they will certainly be armed with a comprehensive knowledge of biology. It is because the book is likely to appeal to more advanced readers that it deserves special notice. It is very well compiled; there is the due mixture of structure, function, and nature study, the text is clear and interesting, and the illustrations first-rate. Covering the range they do, the writers cannot be expected to have a specialist's knowledge of every detail; superficial burns are dangerous through chemical, not nervous, shock (p. 224), the tapetum of the cat's eye is hardly "metallic" (p. 235), the relation of iodine to goitre, as stated on p. 197, is unintelligible. But much more than this could be forgiven for the saying (p. 441) "to understand bacteria they must be looked at from their own point of view; they are not themselves concerned in being either public benefactors or public scourges; they are simply minute living organisms." If students are taught in that spirit, they are on the right road.

Physiological Chemistry.

Fifth edition. By A. P. MATHEWS, Ph.D., Carnegie Professor of Biochemistry, University of Cincinnati. London: Ballière, Tindall and Cox. 1930. Pp. 1233. 15*s*.

THIS book, of which the fifth edition is now before us, has the distinction of being the first text-book on biochemistry in the English language. The first edition was published in 1915, and must be regarded as the parent of the many hundreds of text-books now on the market. Whilst some of these later authors acknowledge the debt, some do not. When first issued the book was of small bulk, but the fifth edition is a large and heavy volume of over 1200 pages. We have praised the work before, and need repeat only that its great value lies in the fact that an unbiased opinion on any biochemical problem may be found in it. One or two criticisms must be made. The sections on internal secretion, particularly those on the sex glands, are out of date. The author shows little knowledge of work done outside America; thus œstrin is dismissed in a very few words, and the male hormone is barely mentioned. Again, the question of tissue respiration is not adequately dealt with in a book of this size. But in spite of a few omissions the book can be commended to students for a full and well-written account of modern biochemistry.

Die Fadenpilzerkrankungen des Menschen.

Second edition. By R. O. STEIN, Professor of Dermatology, Vienna. Munich: J. F. Lehmann's Med. Atlases. 1930. Vol. XII. Pp. 128. With 107 illustrations. R.M.12.

THE text of this well-known atlas of the human mycoses, which first appeared in 1914, has been amplified by 33 pages, but there has been no increase in the number of plates or illustrations, which remain as they were in the first edition. The text has been improved by a table of contents, previously omitted. This includes a brief description of the morphology of the fungi concerned, staining and microscopic technique, culture methods, animal inoculation experiments, immunity reactions, including skin tests, and the preparation of trichophytin. This section occupies only 16 pages, and is followed by a detailed and illustrated description of all the cutaneous fungus diseases common to man, their pathology, diagnosis, and treatment. Of particular interest is the section dealing with the mycotic eruptions (eczematous) of the palms and soles, and their clinical differentiation into disidrotic, squamous, and intertriginous forms. The immense number of alleged pathogenic fungi makes a standard nomenclature difficult, and it will be long before this special branch of dermatology can approach completion. The increasing frequency and recognition of these cases has resulted in the publication of many papers both in Europe and America during the last decade, and the classification here adopted cannot be regarded as in any degree final.

An Introduction to Medical History- and Case-taking.

By GEOFFREY BOURNE, M.D.Lond., F.R.C.P., Assistant Physician, St. Bartholomew's Hospital. Edinburgh: E. and S. Livingstone. 1931. Pp. 195. 5*s*.

Dr. Geoffrey Bourne has written this little volume to help the medical student beginning his clinical work in the wards. It is divided into five sections, made up of history-taking, physical examination, diagnosis, prognosis, and treatment. Those who remember their first bewilderment when confronted with patients in the wards will also remember the poor comfort that the standard medical text-books seemed to provide, and the need for some small practical manual to help them in the difficult task of taking histories. Fortunately or unfortunately, it is true that nothing can take the place of actual teaching in the wards as an introduction to clinical medicine, but Dr. Bourne has provided an admirable elementary guide to supplement bedside instruction. Bad history-taking is a fault that is not always due to slackness on the part of the student, though this is an assumption that chiefs find convenient when they do not wish to impute lack of a thorough grounding by medical tutors. This volume provides the framework on which the student can build. The teaching is somewhat dogmatic, but the student will find it simple, concise, and easy to read, and much of the practical advice would not be wasted upon his seniors.

THE LANCET.

LONDON: SATURDAY, APRIL 25, 1931.

THE CENSUS.

THE census of the population of England and Wales, to be taken on Sunday night, marks the 130th anniversary of the adoption in this country of this important instrument of government—a respectable age in these days of widely advertised defences against senility. Yet each successive decennial enumeration, and this is the fourteenth, bears none of the disturbing signs of approaching dissolution arising from old age, but exhibits, on the contrary, clear signs of growth and development, and of a design to attain to greater perfection and accuracy in the collection and presentation of the data. In the past, misguided people burdened with a sufficiency of ignorance have regarded the practice with disfavour, but if we are to judge from the numerous references to the forthcoming census in the daily press, to broadcast talks on various aspects of census-taking, and to other manifestations of like kind which have been brought under the public notice during the past few weeks, it would appear that the importance of the undertaking is at length to receive adequate appreciation.

Although the primary object of this periodical inventory is the accurate determination of the numbers, constitution, and local distribution of the country's most valuable asset, the results of the count may be, and have frequently been, applied to purposes far beyond the limited field envisaged by these fundamental requirements. On the eve of the last decennial census, in these columns, we briefly discussed the value of census data to workers in the fields of demography and preventive medicine, mentioning inter alia that the incidence of natality, fertility, disease, and mortality were phenomena largely dependent upon the age and sex distribution of a people, and indicating how the census furnishes the information indispensable to the proper interpretation of these and other manifestations. But while census reports are tools necessary to the scientific researches of the vital statistician and the epidemiologist, they have become no less indispensable in other fields of inquiry. Reference to the published results of successive censuses reveals a steady expansion in the amount and variety of census data, suggestive of an increasing demand for such information resulting from a realisation that these data are fundamental to every kind of investigation associated with the commercial, economic, social, and other activities of the nation. It is indeed impossible to overestimate the value of these clear summary statements concerned with the eddying tides of humanity. They provide the keys to a better understanding of the complex causes underlying some of the occupational changes which may have been observed between one decade and another: enable the tabulation of information relating to unemployment, thereby revealing the character and extent of such social and economic disturbances; are a measure of the increase or decrease in the numbers of people of foreign birth resident in this country, and of their share in the national life; throw light upon the size and structure of families, the circumstances under which human beings herd together, and the changing conditions of residence in urban and rural areas; enumerate with accuracy the numbers of widows, old-age pensioners and other dependent persons, and enable the assessment of the relative proportions of the agricultural, manufacturing, or other activities of the people. These, and other equally important items of information made available by the application of the census method of enumeration, have proved a source of inspiration to countless investigators, have served to arouse thoughtful citizens to realisation of conditions or developments demanding remedial action, and have contributed both directly and indirectly to bring about silent revolutions which have culminated in furthering the physical and social welfare of the nation.

If the statesman, hygienist, economist, sociologist, or other worker desires to build effectively and without misdirected effort, he is compelled to-day to enlist the services of the results of the periodical counting wherein are presented faithful pictures of existing conditions. The regularity of the count permits the comparability of data at different periods of time, currents of movement may be traced, changes in welfare indicating progress or retrogression of the human stock comprising the wealth of the nation are readily observable, and in the light of such knowledge future action may be determined with surer promise of success. From the medical point of view the planning of the enumeration to be made on Sunday night introduces one feature of considerable importance—viz., the schedule provides for a record of the place of habitual residence of persons enumerated elsewhere than in their own homes. This is a commendable change which will permit the more exact determination of local populations and more reliable calculation of local mortality-rates. Deaths are registered in the registration sub-district in which they occur, but are tabulated according to the district of habitual residence of the deceased. Up to the present it has been customary after each census inquiry to allocate all enumerated persons to the area wherein they happened to be at the time of the count; the practice about to be introduced will provide for a very necessary correction of the denominator of the fraction involved in the calculation of mortality and other rates.

The Census Office of the Registrar-General may be likened to a vast national laboratory wherein workers are engaged in the assembly and classification of the multitudinous details relating to human units, and in preparing and publishing a variety of exact facts upon which sound judgments may

be based. These orderly analyses are of profound importance in the present age of expert investigation wherein problems of every aspect of human activity demand fuller and more precise information than was formerly considered necessary. The increased use of these data so evident in recent years, and the growing desire for systematic knowledge manifested by thinking people, are not only tokens of progress and enlightenment, but are abundant testimony that the results of the decennial count provide an efficient barometer of human development.

SYMPATHETIC RAMISECTION IN SPASTIC PARALYSIS.

THE value of sympathetic ramisection in spastic paralysis has been much disputed. A group of orthopædic surgeons and neurologists reported unfavourably on six cases operated on in this country by the originator of the operation, Mr. N. D. ROYLE,[1] but at the Winnipeg meeting of the British Medical Association ROYLE found a good deal of support from American and Canadian surgeons.[2]

A further study of 83 cases has now been published by W. B. CARRELL[3] who, with his colleagues, has performed 23 cervical and 60 lumbar ramisections in spastic paralysis. He has encountered great difficulty in estimating the effects of the operation, for other measures were often undertaken concurrently, but he thinks that in practice reasonable accuracy has been attained. The reflexes showed no modification, but the patients who showed most improvement had a relative increase in active joint range. No change was noted in fixed contractions or in contractions which develop on attempting motion or on excitation, but a paraplegic seemed to have better function in the leg with lumbar ramisection and obturator section than with the latter operation alone. No appreciable improvement was ever seen immediately after operation, but when the time came for the patients to go to the gymnasium they gave better response to tests there than they had done before operation. The gymnasium work could not be credited with all the benefit, for the same work on patients who had not undergone ramisection did not produce the same results. But in CARRELL'S experience if it were necessary to choose between ramisection and Stoeffel operations with foot stabilisation, the two latter procedures would be more often indicated and give a higher percentage of improvement in a large group of cases. The age of the patient and the type of paralysis seemed to be of less significance in the result than the severity of the lesion and the mental development. In the lumbar group the average gain was 16 per cent.; in 14 cases there was no gain, and in these the average age was 9½ and the mentality 63¼; while in 12 cases with more than 25 per cent. gain the age was 10¾ and the mentality 81¼. CARRELL points out that if ramisection produces results by release of impulses affecting striated muscle there should be some evidence of changed reactions, yet in 14 cases no changes were observed. There was a high percentage of improvement in patients on whom the operation was performed on both sides, but no corresponding improvement when a cervical operation was followed by a lumbar, or vice versa. In 12 cases ganglionectomy was substituted for ramisection, with slightly better results. The 23 cervical cases were disappointing; 11 cases were not improved, 6 showed 10–15 per cent., and 5 showed 25–40 per cent. improvement. CARRELL'S conclusion is that there is something definitely useful in ramisection which may be added to but not substituted for other procedures in the treatment of spastic paralysis. The orthopædist is thankful even for 10–25 per cent. improvement in these distressing cases.

In an accompanying paper in the same journal W. K. LIVINGSTON attempts to rationalise the surgery of the sympathetic system by regarding smooth muscle hypertonus or spasm as the underlying common characteristic of a number of syndromes for which sympathectomy may be useful, the visceral pain group being due to abnormal changes in tonus of peripheral blood-vessels, the gastro-intestinal group to hypertonus of sphincters, and the vascular group to reflex diminution in blood-supply. He includes chronic arthritis in his third group, since the balance between wear and repair in a joint is dependent on adequate vascular response to function, and benefit has followed unilateral lumbar ganglionectomy in some of his cases. Many cases of obliterative endarteritis show an added element of spasm, he maintains, and sympathectomy will improve such cases. He suggests three ways of deciding whether or not a patient will benefit from operation. Oscillometry reveals an abnormal restriction in the amplitude of pulse oscillation, particularly after exposure to cold, while the fever test consists in the production of pyrexia and measurement of the vasomotor index or ratio between the rise in mouth temperature and the rise in temperature of the affected extremity. The best method, however, is to note the changes that follow selective injection of sympathetic ganglia with procaine hydrochloride; this is not difficult or dangerous, and it accurately produces for a time the results that may be expected to appear permanently after surgical excision of the ganglia. He considers that it should prove valuable in enlarging the field of sympathetic surgery.

[1] THE LANCET, 1930, ii., 127.
[2] Ibid., p. 645.
[3] Jour. Amer. Med. Assoc., March 14th, p. 849.

WILDER ANIMALS.

ON Saturday, May 23rd, will be opened to the public a new zoological park in which many of the animals at present in the gardens of the Zoological Society at Regent's Park can be seen living under more natural conditions. The park occupies an estate of 500 acres on the Chiltern hills between Tring and Luton, and is being made accessible from Watling-street by a new road leaving the street a little north of Markyate and crossing Whipsnade Heath. On this property four chalkpits have been

excavated primarily to obtain materials for road-making, but with the ultimate object of serving as dens for the larger carnivora, and many coniferous trees have been planted to form backgrounds for panoramas; enclosures for bison, wolves, bears, wombats, marmots, and woodchucks have been completed; six panorama paddocks and an enclosure for kangaroos have been laid out. Since the property has been enclosed wild flowers have increased greatly and many orchids and other plants natural to the chalk region, but wholly or nearly exterminated, have been reintroduced, and native birds have nested there in increasing numbers. The park is thus to be a sanctuary for British wild birds and the flowers, trees, and shrubs natural to the region. The more important animals already at Whipsnade, many of them the gift of the Duke of BEDFORD, President of the Society, are camels, llamas, zebras, eland, bison, bears, wolves, muntjac, Chinese water deer, fallow deer, black buck, marmots, woodchucks, wombats, sarus cranes, rheas, pheasants, turkeys, geese, and swans. One consequence of the greater freedom given to the animals is the possibility of risk to visitors, who are warned that the Society disclaims responsibility for damage caused by too close an approach to the fences or barriers, or by any attempt to stroke or touch the animals. Children under 12 will only be admitted to the park on the condition that their guardians make themselves personally responsible for their safety.

The opening of the Whipsnade park is but a logical extension of the aim to let the animals feel at home. To what extent this has been already carried out under the enlightened directorship of Sir PETER CHALMERS MITCHELL and his staff is not perhaps as well known as it should be. There has been a steady reduction in morbidity among all classes of animals in the Zoo. It has been taken for granted that rickets and allied bone diseases can be prevented, in animals as in man, by hygienic living. During the past year only 26 animals died primarily from rickets and osteomalacia: most of these arrived at the Zoo in rickety condition; in only three animals, including a monkey and a douroucouli, did the disease originate in the gardens. For some years artificial light has been installed in the monkey-house to supplement the sunshine to which all anthropoids are racially entitled. A study of the heading "Commissariat" in the Society's annual report reveals the variety of foodstuffs which are provided for the animals, ranging from vast quantities of staples such as hay (168 tons), oats (748½ quarters), locust beans (79 cwts.), horseflesh (269 tons), down to shrimps (2178 pints), sultanas (104 lb.), ant eggs (461 lb.), dried flies (709 lb.), and golden syrup (148 lb). Tuberculosis now accounts for a bare 3·4 per cent. of the total deaths in the Zoo, and the only tuberculous lesions found in monkeys were in two individuals which died in quarantine a few days after arrival. Apparently no monkey or ape contracted tuberculosis in the gardens during the year. On the other hand, it is interesting to note that an old tiger died from tuberculosis of the lungs with extensive cavitation, and an Indian fruit-bat of eight years residence from intestinal tuberculosis. Respiratory diseases in general were fewer. Colonel A. E. HAMERTON remarks that the seasonal fluctuation in the mortality from diseases in this category corresponds with that of the human population living in northern cities. Seven birds died from bird malaria and five from heart disease. In other cases conditions were found analogous to those met with in human practice. Two mammals died from ureteral obstruction by renal stone. Hepatic disease caused 20 deaths, two of which were associated with gall-stones. New growths were found in five mammals and two birds; a grison died from cancer of the liver, and a mynah from cancer of the pancreas. Immunity from epidemic disease is maintained by the new isolation hospital on the north bank, the efficacy of which was tested on several occasions by outbreaks of cat distemper which were confined to a few isolated cases.

Under the more natural conditions at Regent's Park animals are continually breeding more freely, although the infantile mortality from various causes is still high. A baby sacred baboon was killed by a companion at six months old, a mother wolf destroyed five of her six cubs at four days old, and an American bison calf was accidentally killed by its father when 12 days old. Nevertheless the list of mammals successfully reared last year is very striking; it includes two pygmy hippopotamuses, a Californian sea-lion, a Canadian beaver, three lion cubs, wallabies, marmots, lemurs, and a host of hoofed creatures. What are the genetic opportunities of Whipsnade can hardly be forecast.

THE BRITISH SOCIAL HYGIENE COUNCIL.

A LECTURE was delivered on Tuesday, under the auspices of the British Social Hygiene Council, with the Duchess of Atholl in the chair, at the Marble Arch Rooms, London, on Social Hygiene and the Family, by Dr. Maurice A. Bigelow, professor of biology in Columbia University, who has been delegated to Europe to observe the development of social hygiene during the past ten years. Speaking from personal experience in the United States he described the introduction of social questions into the curricula of educational institutions and, in comparing the work of the British Social Hygiene Council with that of the analogous society in America, he pointed out that in both cases social hygiene meant social welfare, and the benefits to be derived were based upon the comprehension of sex. It became clear that Prof. Bigelow did not mean by the study of social welfare, concentration upon sexual problems, but upon family relations, the family being the expression of sexual activity. Society in America, he said, still regarded the family as a unit, the welfare of society being bound up with the safeguarding of that unit; and, alluding to the frequency of divorces in America, he found them not to prove opposition to the family unit idea but only unadaptability of the contracting parties, inasmuch as for the most part divorced people desired to marry again. While urging the inclusion of suitable biological instruction in the education of the young, he declared that the stories of misdemeanour at coeducational schools in America were grossly exaggerated, and said that whenever investigation had been made the untrustworthiness of the rumours had been patent.

ANNOTATIONS

APPLIED PHYSIOLOGY AND PSYCHOLOGY.

THE work of the London School of Hygiene and Tropical Medicine is far wider than its name implies, and brings it into intimate liaison with Government departments and other bodies. A little-recognised branch of its activities and one of great importance was described by Prof. Major Greenwood in a paper read before the Royal Society of Arts on Wednesday last—that is, its work for the immediate service of industry. The divisions of biochemistry, bacteriology, and medical zoology perform work of immediate value in improving processes of manufacture and soil conditions, but the work of the school towards the betterment of the hygiene of industrial conditions, while equally important, is much less widely appreciated. As Prof. Greenwood pointed out, the value of physiological research to labouring life is only just becoming apparent. The part which Sir Leonard Hill has played in applying the discoveries of the laboratory to the problems of the workshop will perhaps not be fully appreciated for a generation or so. It would be hard to exaggerate the increase of human comfort directly attributable to his simple katathermometer alone.

Moreover, the spirit of his investigations is far more important even than their result. Less than a generation ago the physiologist—in the words of Prof. Greenwood—was regarded as a rather unpractical person, much more interested in the twitching of frogs' muscles than the doings of men and women. The physiologist tended to despise the practical man and the practical man heartily returned the compliment. Sir Leonard Hill has taught that laboratory physiology is an instrument and not an end in itself, and that the proper ambition of a physiologist is to understand human physiology. It is the business of institutions such as the Keppel Street School, said Prof. Greenwood, to see that this liaison between the laboratory and the workshop shall never be broken. The number of trained investigators is still small, but the coördination of the school's work with that of the Industrial Health Research Board will increase it, and the organisation of the Medical Research Council has extended the liaison to branches other than those with which Sir Leonard Hill's name has been associated. The school has already secured one element of success in ensuring that entrants to the public health services receive a proper grounding in the applications of physiology.

The physiological aspects of industrial hygiene lead straight to the psychological aspects, which, according to Prof. Greenwood, have not yet found their Leonard Hill; they are equally important with the physiological aspects, and progress in one direction cannot be achieved without progress in the other. Fortunately, as Prof. Greenwood pointed out, the Industrial Health Research Board has realised this truth from the beginning and has devised a unique and highly promising combination of clinical and experimental methods of research. The school, for its part, has introduced the elements of clinical psychology into the curriculum for the Diploma of Public Health and has established a chair of medical and industrial psychology. Prof. Greenwood prophesies that the school will train workers whose efficiency as industrial psychologists shall not be inferior to that of the industrial physiologists. If its work in this direction is comparable with that which it has performed in other branches of hygiene and tropical medicine, there need be no anxiety for the future of this new and very important enterprise.

MASTOID COMPLICATIONS IN SCARLET FEVER.

Dr. Kaisig has written a review of surgical complications in scarlet fever,[1] from which we have singled out the mastoid complications because of their frequency and importance. There are, she says, two main types of mastoiditis, differing clinically and pathologically; a very acute malignant type with extensive necrosis of the mastoid and early spread to the sinus and meninges (two cases in five years), and ordinary mastoiditis, as seen in conjunction with other specific fevers (35 cases). The cases of the latter she subdivides into three groups: according to whether it occurs during the first two weeks of otitis media (Group A); between the second and sixth week (Group B); or after the sixth week (Group C). Of the 14 cases in Group A, half showed fever, tenderness over the mastoid with redness and œdema, but all healed entirely with conservative treatment. The results of early surgery are poor, and one is well advised to wait till the inflammatory process has lost some of its urgency. Indications for operation are: (1) five to seven days' existence of mastoiditis without improvement in spite of a good discharge of pus and good local treatment; (2) abscess formation—swelling behind the ear and sagging of the posterior meatal wall; (3) the onset of septic symptoms. In Group B conservative treatment is of less importance, and operation should be performed if there has been any aural discharge for three weeks without any sign of improvement, with good treatment, and with a temperature practically normal. If there has been fever, which cannot be accounted for by any other focus of infection, operation should be done earlier, preferably at the end of the second week, since cases are found in which no signs of bone disease are present for three weeks and then suddenly marked local symptoms appear, extensive destruction being found at operation. Operation is required in all the cases falling into Group C. Many authorities never advise a radical operation in scarlet fever, but obviously a perisinous or subdural abscess will never heal with conservative treatment, and intracranial complications are very likely. This was present in 4 of 27 antrotomies recorded by Kaisig. Other advantages are that healing is quicker and later complications are avoided.

HOSPITAL COÖPERATION IN LONDON.

THE London Voluntary Hospitals Committee, whose origin was described in our correspondence columns last week, has now been in existence for a year, and the Central Public Health Committee of the London County Council has acceded to its wish to be consulted at an early stage on all matters of moment. It has been agreed on both sides that the machinery of Section 13 of the Local Government Act of 1929 should be used for exchange of information to the advantage of both the public and the voluntary hospitals services. No occasion has yet arisen to call together the area or other committees by whom the Voluntary Hospitals Committee is elected, as the

[1] Kaisig, E.: Monat. für Kinderheilk., 1931, xlix., 373.

London County Council decided at an early date to postpone the foreshadowed area organisation of their own services. The Committee has ascertained that there is no present likelihood of the Council departing from their existing practice of not making capital grants to voluntary hospitals. As regards maintenance, while the Council are not disposed to make grants for general maintenance, they are willing that payments for specific services required by the Council and rendered by voluntary hospitals to the sick poor should be continued, and that the application of this principle should be if possible extended. It will be remembered that this distinction was also drawn by Lord Cave's Committee. The Council have agreed to the Committee's request that as an interim arrangement contributions to voluntary hospitals of similar amounts to those contributed by the late guardians in 1929 should be paid for the year to March 31st, 1931, by the Council, on the understanding that the payments are without prejudice to whatever financial arrangements the Council may decide to make after that date.

The representatives of the Hospitals Committee at their last conference with the Public Health Committee urged that the Council should not insist on treating all patients chargeable to them if there were a choice of voluntary or Council accommodation. The Council took the view that it is their first duty to keep their own beds occupied, and that, while they cannot pay voluntary hospitals for services they can themselves supply, they adhere to the principle of grants for specific services rendered at their request. The provision of pathological laboratories at the Council's hospitals has been discussed with the Hospitals Committee. The Council have in mind as an ultimate ideal a well-equipped and adequately staffed laboratory in every general hospital, and one or more central laboratories for the specialised pathological work requiring expert knowledge and elaborate equipment. Their immediate proposals provide for the establishment of five "group" laboratories, suitably located, capable of dealing with the more specialised pathological work. The first of these "group" laboratories will be ready to function this month; two others will be completed in three or four months' time; the last two will be ready for use towards the end of this year. The late Metropolitan Asylums Board had already provided adequate laboratory services at the northern and southern "group" laboratories for the special hospitals, and also for the production of therapeutic sera at Belmont laboratories. The Committee agreed with the view that it was desirable to provide an adequate pathological service for every general hospital dealing with acute cases, and recommended that in the formation of "group" laboratories advantage should be taken of existing pathological departments of the voluntary hospitals, a suggestion which was not adopted.

At the desire of the Council the Hospitals Committee submitted a memorandum upon the use of municipal hospitals for medical education, and upon the methods of staffing at these hospitals. The appointment at municipal hospitals of resident house physicians and house surgeons would, it was pointed out, prove of value in the education of recently qualified men and women. Provision has already been made for such appointments. The Hospitals Committee also recommended that the present consultant services at municipal hospitals should be extended, and an advisory Board set up for the purpose of recommending consultants for appointment. The Council, however, decided to continue existing arrangements for a year and to reconsider them then. Opportunities for students to visit municipal hospitals for the purpose of studying diseases more often seen in those institutions than in voluntary hospitals are to be extended wherever possible. The shortage at teaching hospitals of obstetric beds for instructing medical students was discussed and the Council, while stating that the existing maternity units in their general hospitals were not of sufficient size to be suitable for teaching purposes and were fully used for the training of nurses, acquiesced in the principle of allowing the teaching of students in connexion with their maternity beds as and when satisfactory arrangements could be made. The Hospitals Committee also arranged two conferences with representatives of the Board of Control when the facilities provided by the Act were outlined for treating mental patients by voluntary hospitals.

BLOOD VOLUME AND CIRCULATION TIME IN BABIES.

AN interesting contribution to human physiology is to be found in the work of Dr. H. Seckel, in the Hamburg University Children's Clinic, on various aspects of the blood volume and circulation time in babies and young children. His latest paper [1] deals chiefly with circulation time and the minute-volume and stroke volume of the heart's output, forming a logical sequence to his previous studies [2] of total blood volume in normal and sick children from the early weeks of life up to 14 years. After a brief discussion of the various ways of investigating the circulation time in human subjects and the special disadvantages presented by most of them for pædiatric work, Seckel advocates the "histamine rash" method as most useful. In the doses he employs this substance is free from all risk, can be relied upon to produce reddening of the face, and has a purely local action on the capillary system. The total blood volume was estimated by a colorimetric method at the same time and the following represents a summary of the routine adopted.

All the children in the present series were young babies and the investigation was performed with the child fasting and lying quietly at rest. The exact number of heart beats for a full minute was counted by auscultation at the apex. Next, blood was taken from the heel for a hæmoglobin estimation and red-cell count. A red-cell count was also made in blood obtained from the longitudinal sinus and the colour-index and "red-cell volume" calculated. The volume of the circulating blood was then determined by injecting trypan-red solution into the longitudinal sinus, samples of blood being taken before the injection and at 3½ and 5½ minutes afterwards. Next, the blood volume was determined colorimetrically, as described in detail in Seckel's earlier papers. When this had been done, histamine was injected into the sinus in a dose of 0·001 mg. per kg. of body-weight, the solution employed being 1 c.cm. of a 1 : 1000 histamine solution in 100 c.cm. of Ringer's solution. The exact time of the beginning of a blush on the forehead was noted by two observers with stop-watches. One difficulty of this method lies in keeping the child quiet, because any screaming naturally reddens the face, but Seckel appears to have got over this in 90 per cent. of cases by "psychical diversion" or failing this, by use of the "dummy" or small feed.

In nearly 50 babies of from 1 to 15 months old,

[1] Jahrb. f. Kinderheilk., March, 1931, p. 87.
[2] Ibid., 1929, cxxvi., 83; and 1930, cxxvii., 149.

mostly quite healthy or slightly dystrophic, the average total circulating blood volume was approximately 8 per cent. of the body-weight. The circulation time, measured to the beginning of the appearance of the reddening of the skin, was about 15 seconds for the first year of life in healthy babies and this showed a remarkable constancy in certain cases where the experiment was repeated more than once. Seckel emphasises that he is describing the "minimum" circulation time by this method, for the "middle" or "mean" time referred to by other workers is approximately double this. This is important when the results obtained are used to calculate the minute and stroke volume of the heart. As Seckel points out, direct estimation of these factors is in practice quite impossible in babies, but the minute volume can easily be reckoned when the total blood volume and "mean" circulation time are known. The minute volume in the first year of life was found to lie between 160 and 170 c.cm. per kg. of body-weight, and in the second year round about 130 c.cm. as compared with an average for adults of about 75 c.cm. The stroke volume could likewise be calculated from a knowledge of the heart-rate and was found to be about 1·3 c.cm. per kg. The work performed by the heart can be shown by these figures to be relatively larger for these young infants than for adults. The very high figures for the size of the circulation in young babies seems to be directly associated with the intensity of the respiratory gaseous exchange at this age and represents the organism's response to the growing tissues' great need of oxygen. In severe anæmia, in fever, in pneumonia, and in congenital heart disease, for example, this mechanism breaks down, and Seckel is doing further work on blood volume and circulation time in these disorders.

WELFARE OF THE BLIND.

THE ninth report of the advisory committee on the welfare of the blind to the Minister of Health [1] gives the number of blind persons in England and Wales registered on March 31st, 1930, as 56,853. This is an increase of slightly over 4000 on the previous year, but the difference is probably due to improved registration or else to a more liberal interpretation of the necessarily somewhat vague definition of industrial blindness recognised ("too blind to perform work for which eyesight is essential.") The report insists on the importance of obtaining proper medical evidence from practitioners specially skilled in ophthalmology before anyone is placed on the blind register. It may be suggested that even so the decision as to whether a particular applicant is or is not blind within the meaning of the Act is no easy one. There are many borderland cases and a degree of vision which may be quite useless for reading and writing may be of considerable service in other respects. It is not surprising that there should be a difference of opinion even among ophthalmic surgeons about such cases. Some would sign their certificates; others would not. There is a greater difference between such a case and one who is "stone blind" without perception of light than there is between a man who can merely count fingers with the best correcting glass and one who is just able to see 6/60 but finds it impossible to obtain any sort of employment on account of defective vision. Yet for the latter there is no State aid forthcoming while for the former there is much.

The report comments on the changes due to the Local Government Act of 1929 establishing a new system of grants and throwing upon the local authorities the duty of dealing with and subsidising the voluntary associations who carry out the work for the blind. A main part of this work consists in the provision and organisation of employment for blind workers. The proportion of the total blind population who are employed is 17 per cent. and the report states that there are large numbers of blind persons undergoing training now who will be ready for employment in the next few years. As there is considerable difficulty in disposing of the goods made it is maintained there is urgent need for the establishment of a central marketing board. A placement committee has been established by the National Institute for the Blind for the purpose of fostering the employment of the blind, especially in ordinary factories and workshops. It was found that the earnings (approximately 15*s.* a week) of blind workers employed in ordinary factories averaged about two-thirds of what sighted workers could earn in the same occupation.

[1] H.M. Stationery Office. 1931. 6*d*.

MYELOID SARCOMA.

IT is becoming fashionable, and it is certainly convenient, to use the name "osteoclastoma" for the tumour which arises in the medullary cavity of bones and is composed of spindle cells with a good proportion of giant cells which resemble osteoclasts. It is generally considered a benign tumour and great numbers of cases have undoubtedly been cured by curettage or local removal. Evidence however accumulates that growths of this histological type cannot be trusted to remain indefinitely localised at their site of origin. In 1926 Drs. E. F. Finch and H. H. Gleave,[1] of Sheffield, published a very clear example of malignancy. A man of 49 had a spontaneous fracture of his femur in 1917. By 1925 the leg was useless and was taken off, and soon afterwards the patient began to spit blood. He died in 1926 with abundant secondary growths of typical histological structure in the lungs. Dr. S. C. Dyke, of Wolverhampton, has recently described another instance in the same journal.[2] A man of 25 had trouble in 1924 with his knee, supposedly following an injury. In 1925 the knee was explored and an osteoclastoma curetted from the patella. In 1929 after a fall the lower end of the femur swelled and the leg was amputated and by the end of the year he had signs of a number of secondary growths in the lungs and elsewhere. He died in 1930 and metastases were found in the scalp, lungs, kidneys, and mediastinal and peritoneal lymphatic glands; further secondaries appeared to be present in the ribs and spine but these were not confirmed histologically. The microscopical appearances of the secondaries in this case were not so typical, but among masses of necrotic and spindle-celled tissue small areas were found everywhere which had the classical structure of osteoclastoma. Yet a third case has been put on record [3] from St. Mary's Hospital by Dr. J. W. Orr. A man of 20 had his leg amputated for a growth of the lower end of the femur, diagnosed histologically as "myeloid sarcoma." He died six months later with many metastases in the lungs but not elsewhere. The secondaries showed a spindle-celled stroma with many typical osteoclastoma giant cells; there was, however, a certain amount of bone and a number of small giant cells bearing no resemblance to osteoclasts but suggesting foreign body cells. In another case,

[1] Jour. Path. and Bact., 1926, xxix., 399.
[2] Ibid., 1931, xxxiv., 259.
[3] Ibid., p. 265.

observed many years ago by Prof. Robert Muir in Glasgow, the secondaries in the lungs showed only spindle cells as far as they were examined. Some people may argue that, because the secondaries in some of these cases did not show an exactly typical picture, the tumours in question were not genuine osteoclastoma. This seems to be hardly a more reasonable position than to say that a tumour cannot be an osteoclastoma if it is malignant. Osteoclastomas will show a uniform and typical microscopical picture only so long as they are benign; with the onset of malignancy we should expect greater or less departure from the customary structure and should not be surprised if some cases, such as Dr. Orr's, show signs of kinship with osteogenic sarcomata. Clinically at any rate it seems certain that purely local treatment cannot be regarded as altogether safe.

THE VETERINARY BULLETIN.

THE Imperial Agricultural Research Conference of 1927 recommended the publication of a veterinary bulletin by the Imperial Bureau of Animal Health, a task previously undertaken by the Bureau of Hygiene and Tropical Diseases. The *Tropical Veterinary Bulletin* accordingly was discontinued with the issue of Dec., 1930, and in its place a new journal under the title of the *Veterinary Bulletin* is to appear quarterly, the first issue of which is in our hands. It will deal with all aspects of animal health in so far as they relate to original research and administrative control, but will not deal with clinical material from the point of view of the practitioner. The ground covered will be wider than that of the bulletin whose place it has taken, for the animal diseases of temperate climates will receive full consideration, as well as such cognate matters as mineral and plant poisoning in animals. This first number contains 96 pages admirably arranged and printed but for the fact that the line is more than 5½ inches long and would certainly not have passed the censor of the Fatigue Board. The German titles are, with a few trifling exceptions, correctly rendered. The bulletin consists of a series of 168 readable abstracts and reviews classified under 14 headings, the longest section being diseases caused by bacteria and fungi, followed by protozoan and metazoan parasites, and filtrable viruses. A useful section summarises the many official reports which the veterinarian should know about. The editor of the bulletin is Mr. W. A. Pool, M.R.C.V.S., deputy director of the Bureau. The bulletin will be issued on the first day of April, July, October, and December, to subscribers at £1 for the volume or 7*s*. 6*d*. for a single copy. Application to the Imperial Bureau of Animal Health Veterinary Laboratory, Weybridge, Surrey.

MENTAL HOSPITALS IN AMERICA.

WITH the passing of the Mental Treatment Act, 1930, all "asylums" automatically became potential centres for the dissemination of mental hygiene and, no doubt, they will before long become mental hospitals in the truest sense of the word. The speed of their development along these lines must, however, depend upon the education of public opinion. Apart from these statutory institutions the hospitals which have been specially established for the early treatment of nervous and mental disorder and which enjoy the confidence of that large proportion of the population which still dreads the "taint" of "insanity" can be counted on the fingers of one hand. This is one of the things in which America has progressed beyond us. In its special hospital number for March the *Journal of the American Medical Association* publishes an analysis of hospital services in the United States; the figures show the astonishing result that the hospitals classed as "nervous" and "mental" far outnumber, numerically and in the number of their beds, hospitals of any other class except general. New York State alone has 59 mental hospitals; in the whole of the States there are 4302 general hospitals serving an average of 240,000 odd patients, and 561 nervous and mental hospitals serving an average of 415,000 patients. The next in the list are the tuberculosis hospitals, which number 515 and serve 56,000 patients. These figures prove conclusively that the American people are far more alive to the necessity for mental hygiene than we are. The article quoted indicates a demand for accommodation in mental hospitals comparable to our own, for 94·8 per cent. of the available beds are occupied, as against 64·7 per cent. of the beds in general hospitals. Government and non-Government hospitals have grown up together in many States. The Americans are making increasing use of their mental hospitals for teaching purposes; 31 out of 561 are affiliated with medical schools, and 63 offer 302 approved residencies in psychiatry. The report of our Board of Control for 1929 states that at the beginning of 1930 the number of persons under care for notified mental disease in England and Wales was 142,387; the proportion of persons under treatment to the population is therefore smaller in the United States than in England in the proportion of about 9 to 10, reckoning the population of the States as 130,000,000 and that of England and Wales as 40,000,000. These rates illustrate the crowded state of our mental hospitals which is constantly deplored by the superintendents. They claim that they cannot do their preventive and early mental treatment properly unless they have much more accommodation.

PHYSIQUE AND FEEBLE-MINDEDNESS.

THE existence of physical abnormalities in mentally defective people is familiar even to the layman, and much has been written about so-called stigmata of degeneration. Many early ideas on this subject were unscientific because the study of physical constitution was undeveloped. Recent work, however—especially the researches of Kretschmer and his pupils—has rendered possible a more accurate and refined investigation.

Dr. Eric Strauss, in a paper on the Psychobiological Constitution of the Weak-minded,[1] makes a well-balanced and stimulating contribution to a subject of importance not only to the doctor but also to the eugenist and the sociologist. His material consisted of 110 male defectives who superficially presented an appearance of physical normality. He thus excluded from consideration all the grosser types of psycho-physical deficiency such as cretins and mongols, syphilitics and epileptics. He sought first to discover whether these 110 defectives could be grouped according to Kretschmer's classification of physical constitution in the three primary categories of lepto-somatic, pyknic, and athletic. None exhibited the typical characteristics in an uncontaminated form and 11 were so dysplastic that they could not be classified at all. The remainder, though recognisable as belonging to one or other of Kretschmer's groups, exhibited various physical abnormalities of which genital dysplasias were the most frequent and

[1] Jour. Ment. Sci., 1930, lxxv.

striking. As might have been expected, there is little evidence that any single physical type predominates among mental defectives.

Strauss's most interesting observations are concerned with the temperament of defective patients. As is well known, Kretschmer associates certain temperamental characteristics with his physical types. Strauss found, however, that this association was by no means constant among the defectives. In spite of the small number of pyknics among his 110 patients, the corresponding cyclothymic-cycloid temperament appeared in no less than 31 per cent. His explanation of this apparent discrepancy is based upon a theory of the evolution of temperament which deserves to be read in full. Briefly, he considers that the cycloid mental characteristics exhibited by the defectives represent a primitive temperamental type, an arrest in emotional development comparable to their physical and intellectual stunting. Dr. Strauss's paper also contains material bearing upon the frequency of the physical "stigmata" of mental defect, upon its heredity, and upon its association with criminality.

FRESH LIGHT ON JOHN ABERNETHY.

A MEETING of the Abernethian Society of St. Bartholomew's Hospital was held on April 20th to commemorate the centenary of the death of John Abernethy. Sir Arthur Keith, who was introduced by the President of the Society as a hero-worshipper of its founder, delivered an address with the title "Fresh Light on John Abernethy." "Just 100 years ago," he began, "my predecessor, William Clift, Conservator of the Museum of the Royal College of Surgeons, opened the 'Daily Remembrances' I hold in my hand, and entered under the date, Wednesday, April 20th, 1831, 'Mr. Abernethy died this day at half-past 5 P.M. at Enfield, Middlesex.'" On April 23rd "called upon Mr. Chantrey concerning Mr. Abernethy's death" and there follows a priced list of one pot of pomatum; plaister-of-Paris, a bag; two iron spoons; one small tool, and the record of a visit to Enfield. There Clift "was much gratified in being made certain that a cast had been made . . . when our friend was in the prime of life and includes the intire head and beginning of the neck." So are explained references to Abernethy in Clift's diary and particularly why Clift was so keen to secure from Chantrey a bust of his friend, and said Sir Arthur for himself, "it was while rummaging in Clift's diaries and being made to see Abernethy through Clift's eyes that the great surgeon of St. Bartholomew's became also a hero of mine." Telling much of the life-story of Abernethy, and of how Abernethy and Clift came together over the business of the Hunterian Museum, the lecturer reached the day when Abernethy felt compelled to retire from his seat on the college council. Before doing this he sent for Clift, and together they drafted the letter of resignation. The council decided to acknowledge Abernethy's merits in a suitable resolution, and Clift had much to do with its drafting. In its final form it contains a curious and puzzling phrase: "the contemplation of his bust must ever excite in liberal minds, emulative ideas of public virtue in the cultivation of useful knowledge." This written before a bust had been executed, explains Clift's hurried visit to Enfield after Abernethy's death. Sir Arthur Keith described Abernethy's house, Field Manor, Enfield, still standing, as it would have looked on the day of the funeral, and after touching on the revolution that has occurred in science during the last 100 years, closed with the following words: "We can never see Abernethy as his contemporaries saw him. The lesson that I would take out of that is—that what has happened to Abernethy's discoveries will happen to all of ours. Treat, then, our great dead with reverence. But there is one side of a man's nature which can never grow old—never pass out of date or fashion. That is his character. Abernethy as a man will never be out of date." A vote of thanks proposed by Sir Percival Hartley was seconded by Mr. W. R. Bett, who addressed the lecturer in the manner first of Sir James Paget and then of John Hunter. Lawrence's portrait of Abernethy, and Groves's bust had been placed in the lecture room, where also was an exhibition of Abernethiana arranged by Mr. J. M. Jackson, including Abernethy's gold repeater watch lent by the Royal College of Surgeons.

RELAPSING FEVER IN G.P.I.

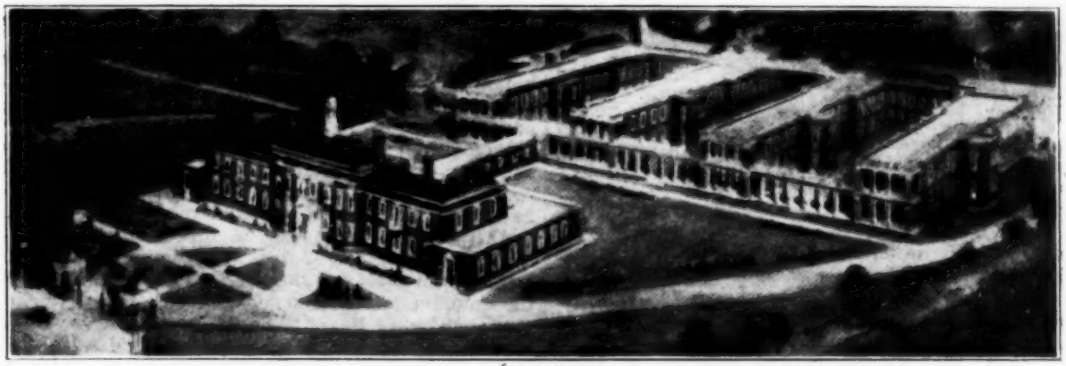
AT a meeting of the Société de Thérapeutique of Paris Dr. Auguste Marie lately recorded his observations on 51 cases of general paralysis treated by inoculation of relapsing fever. The method, which had been suggested to him by Prof. Mesnil followed by Dr. Marchoux and Dr. Levaditi, was first employed in cases of general paralysis refractory to malariotherapy, in advanced stages where inoculation of the plasmodium was likely to be dangerous, and in cases where a rapid reaction was required. Inoculation of relapsing fever was also used as a method of prophylaxis against relapses in patients who had been inoculated by malaria and seemed to be immune to the plasmodium. The result of the treatment was that 18 of the 51 patients were discharged with a more or less complete and persistent remission; 16 showed an arrest of their physical symptoms but were detained in the asylum where some of them had been for several years; there were 17 deaths, 10 of which occurred within a few months after the treatment; and in the remaining cases there were remissions of varying duration. The average age of the patients who were discharged was 35 years, of those detained in hospital 40 years, and of the fatal cases 45 years. This suggests that with relapsing fever as with malaria the best results may be expected in young subjects. Some authorities think that relapsing fever is better tolerated by general paralytics than malaria, although there is not always a reaction. Hoche even maintains that the number of remissions is more frequent with relapsing fever. On the other hand, some observers who have tried both methods, such as Prof. Claude, still prefer the plasmodium of malaria to the spirillum of relapsing fever. Marie himself thinks that treatment by relapsing fever is a less reliable and more complicated method than malariotherapy, because after four to six passages from man to man the spirillum must be passed again through the mouse, whereas the plasmodium retains its virulence. In conclusion, he recommends that both methods should be supplemented by courses of arsenic or bismuth.[1]

THE St. Cyres lecture for 1931 will be delivered by Sir Thomas Lewis at the National Hospital for Diseases of the Heart, Westmoreland-street, London, W., at 5 P.M., on Thursday, May 14th. His subject will be Ischæmia of Muscle as a Cause of Anginal Pain.

IT has been brought to our knowledge that half a gramme of radium element of guaranteed quality, set up in needles of various strengths, is in the market for disposal. Any request for further particulars will be passed on to the vendors.

[1] Bull. Soc. de Thér., March 11th, p. 116.

SPECIAL ARTICLES



King George Hospital as it will appear when completed.

KING GEORGE HOSPITAL, ILFORD.

IT is an ironic comment upon much of the current talk about the coming "bankruptcy" of the voluntary hospital system that at the very moment when the primary responsibility for the provision of hospital services has been placed upon public authorities we are witnessing the rapid creation of a great new voluntary institution for the prevention and cure of disease. The building and equipment of a large general hospital is a very serious undertaking even when, as at Ilford, there is a nucleus to work upon, and it is easy to understand why the London County Council preferred to leave to voluntary effort the provision of so essential an accompaniment of their vast Becontree housing estate. One of its ex-chairmen, Sir George Hume, has given the enterprise his blessing; another ex-chairman, Sir Cecil Levita, has been its moving spirit.

King George Hospital has just completed its first year since the grant of a charter of incorporation, and the report of the board of management records a period of great activity and substantial progress not only in building but in increasing the volume and extending the scope of the work. The board has to cope with a demand which grows more rapidly than the means of answering it. As yet the accommodation is small, and a year ago it became necessary to plant out a part of the nursing staff to provide the additional beds for which the need was "desperate." The average of patients resident daily was thus increased from 55 to 67. Their average stay slightly exceeded 19 days and their weekly cost was £3 4*s*. 2*d*.

The original intention was to provide approximately 150 beds, but "the irresistible public demand" has compelled the board to move in advance of their means and to increase the number to 200. By making this extension while the builders are on the spot there has been a very large economy, the 50 additional beds costing no more than £240 each. This provident management ought to meet with its reward in the raising with comparative ease of the £25,000 which will still be required to enable the new hospital to be opened free of debt.

There could be no clearer proof of the need of hospital accommodation at Ilford than the fact that what is at present a small institution last year treated 131 more in-patients than in 1929, and that the number of out-patients rose from 2382 with 8427 attendances, to 4004 and 12,430 attendances. The Becontree centre, at Dagenham, an adequate modern building provided largely by the London County Council and local effort, is proportionately equally busy, and the usual public health services—school, antenatal, and infant welfare clinics, and a tuberculosis dispensary—have already been established. It is hoped that when the hospital is completed it will be opened by the King in person.

SWEEPSTAKES AND HOSPITAL POLICY IN IRELAND.

(FROM OUR DUBLIN CORRESPONDENT.)

IT has been interesting to watch the changing attitude of the public in Ireland toward the policy of raising funds for hospitals by means of sweepstakes. When the plan was mooted first, the man-in-the-street thought that one or two such enterprises might succeed in freeing the hospitals from their more pressing difficulties, but not even the promoters dreamt of the huge sums that were about to roll in. The success of the November sweepstake startled the ordinary observer into interest, and the greater success of that held last month appears to him to indicate that untold wealth is at the call of those who gain sanction to promote a sweepstake for any object. The success of these two ventures has had its effect also on the minds of many governors of hospitals who had doubts a year ago about the wisdom of joining in what appeared to be a risky enterprise.

The vanishing of doubts has shown itself by the rapidly increasing number of hospitals participating in successive sweepstakes. Of the 13 major Dublin hospitals (ten general and three maternity) only three were concerned in the November sweepstake. Only five are standing out of the forthcoming ventures. Moreover, several provincial hospitals are now participants, and legislation is about to be introduced to the Dáil to legalise the county (rate-supported) hospitals to join in later sweepstakes. Again, all kinds of other ventures are asking for their claims too to be considered, that it may be made legal for them to raise funds by sweepstakes.

EFFECT ON ORDINARY SUBSCRIPTIONS.

It is not easy to say how far the governors of the hospitals which are still standing apart are influenced by questions of principle—or by mere considerations of expediency. There is no doubt that many individual governors feel strong disapproval of gambling. Some others, while disliking gambling, are questioning themselves as to whether they are right in putting their personal moral judgments as obstacles to the pecuniary benefit so easily attainable for their hospitals. A few subscribers, who disapprove of gambling, have transferred their support from the participating to the non-participating hospitals, as has also the Dublin Hospital Sunday Fund. On the other hand, many who occasionally subscribed to the hospitals as charities, but were not particularly interested in the work, are fastening up their purses in the comfortable belief that the participating hospitals no longer need their help, and that the non-participating hospitals could become equally independent, if they were willing to divest themselves of foolish scruples. In the result, none of the hospitals—participating or non-participating—is in a position to judge where it stands as regards its future income from the charitable public.

DOUBTS.

Nevertheless, although the man-in-the-street is content with the obvious fact that the hospitals are getting money easily, there are many more thoughtful observers who regard the method as unsound, morally or economically or both, and do not look with equanimity on the prospect of the burden of the care of the sick poor of Ireland becoming a charge on the gambling spirit of the world. In particular, it is urged in many quarters that the proposal now before the Dáil to permit certain rate-supported institutions to share in the benefit of the sweepstakes is humiliating and improper. If the natural responsibility of the rate-payer as regards public hospitals is transferred to the gambler in China or Peru, then it becomes difficult to know where to draw the line. Why not put the whole maintenance of the hospitals on the sweepstakes? Or the charge of the salaries of medical officers of health? Or the upkeep of the roads? Why not go further, and support the Government of the country itself on sweepstakes, as certain of the minor princes on the continent draw their incomes from their gaming tables?

UNITED STATES OF AMERICA.

(FROM AN OCCASIONAL CORRESPONDENT.)

THE FOUNDATIONS.

In a country where even the most limited proposals for federal aid to health work arouse active opposition—especially from the medical profession—the work of the endowed foundations in promoting and forwarding public health research and administration becomes of really national significance. Reports of four of the leading funds[1] are recently to hand. The *Milbank Fund* announces the termination of the three health demonstrations in New York State. These demonstrations have now been in progress for eight years and may be considered to have fulfilled their purpose of demonstrating in a rural, a town, and a metropolitan area respectively something of the possibilities of an intensive public health campaign. The results achieved in the rural demonstration in Cattaraugus County are reviewed in a book (now in press) by Prof. C. E. A. Winslow.[2] Dr. Winslow agrees that the county demonstration, like other human enterprises, failed to achieve perfection, but says that "it was conceived with remarkable soundness and in the main executed with efficiency and economy" and "represents one of the most effective and inspiring contributions made to the cause of rural public health anywhere in the world." He finds that as a result of the eight years' public health work the county is saving 20 infant lives, 5 lives from diphtheria, and 14 lives a year from tuberculosis. In these three classes alone he estimates the gain to the community at $300,000 a year. It is evident that the County Board of Supervisors have also been convinced that health work pays, for despite the general financial retrenchment they have increased their appropriations for public health from $66,000 in 1930 to $87,000 in 1931.

A similar critical review of the demonstration in the city of Syracuse is contemplated. It is roughly to be measured by the achievement of a low infant mortality-rate. This reached a minimum of 55·7 in 1929. The estimated rate for 1930 is approximately the same. The municipality, which appropriated $144,000 for public health in 1923 (the first year of the demonstration) appropriated $314,000 for the same purpose in 1930.

References have already been made in these letters to the work of the Bellevue-Yorkville health demonstration in the metropolis. The immunisation of over 200,000 city children against diphtheria is not the least among its accomplishments.

The *Rosenwald Fund*, founded in 1917 "for the well-being of mankind," has been expended mainly for educational and health work among the negroes. The fund is coöperating with the U.S. Public Health Service and State authorities in five experiments in the control of syphilis. Aid has been given in placing 31 coloured nurses in southern county health units. Hospitals and institutions for coloured people have also benefited, including a negro birth-control clinic in New York City. "In all these activities in behalf of negro health a most important feature is coöperation between white and coloured groups in financial support, management, and medical direction. In so complex a subject as medicine" writes Mr. Embree, the president, "negroes must for many years lean heavily on the superior training and longer experience of their white colleagues."

The *Rockefeller Foundation* specialises in giving assistance to official health agencies both in this country and abroad, and also in the encouragement of promising research workers by the giving of special grants and of fellowships. During the last year governments in various parts of the world have received aid for purposes of public health education, for the strengthening of central and local health services, and in the scientific study of their public health problems. During 1930, 52 articles in the medical press reported work done by members of the field staff or persons working under the auspices of the Foundation. Work on hookworm disease is in progress in 14 different countries, on malaria in 15 countries as well as in the United States. Research on yellow fever is still a major interest of the Founda-

[1] Milbank Memorial Fund Quarterly Bulletin, vol. ix., January, 1931. Julius Rosenwald Fund, Review for the Year, Chicago, 1930. The Rockefeller Foundation: Quarterly Bulletin, vol. iv., January, 1931. The Commonwealth Fund: Twelfth Annual Report, New York, 41, East 57th-street, February, 1931.

[2] Health on the Farm and in the Village. By C. E. A. Winslow, professor of public health, Yale Univ. School of Medicine, New York: The Macmillan Co. Pp. 275. $1.

tion. It cost the life of one of the younger and most promising of research workers, Dr. Theodore B. Hayne, who died at Lagos, Nigeria, on July 11th, 1930.

The *Commonwealth Fund* has three broad interests: Public Health, Mental Hygiene, and Anglo-American relations. The public health work done with its aid is somewhat like that carried through by the Milbank Foundation. However, it has concentrated more upon the education in public health of the medical profession and has been spread over a larger territory. In each of the States in which the Commonwealth Fund is assisting to develop public health service "to the point of greatest usefulness within the limits of sound budgeting," 15 scholarships are provided annually for rural physicians who will receive post-graduate instruction not only in public health but also in the various fields of medical practice. Scholarships for post-graduate nursing study are also provided.

During the academic year 1929–1930 60 English fellows were in residence in American universities. During the present academic year the number is 68. Very interesting reports are furnished by these fellows of their experiences in America. The summer travel which intervenes between the two years of university life is rightly emphasised as an important feature of the plan.

In mental hygiene the fund has been active in the promotion of child guidance clinics and in securing for them the right kind of trained personnel. Their assistance in developing the child guidance clinic in London has doubtless made this phase of their work familiar to English readers. The new London house of the Commonwealth Fund is at 35, Portman-square.

PUBLIC HEALTH SERVICES

REPORTS OF SCHOOL MEDICAL OFFICERS.

—	No. on roll.	Average attend-ance.	Routine inspec-tions.	Special exams. and reinspec-tions.	Percentage of defects.
Sheffield ..	76,949	70,224	19,128	138,882	16·76
Eccles	—*	—*	1 978	3,189	21·28

* Not stated.

Sheffield.

Dr. T. Chetwood says that the record of the past year shows continual improvement in the health of the school-child in the city. It must not be forgotten, however, that the real object of the service must be prevention of disease rather than its cure. Of the children under 5, only those few who attend the nursery schools have the benefit of the school medical service, and it is apparent, he adds, that many of the problems that face the school medical officer originate among the children of pre-school age. The expansion of the service is illustrated by the increase of nearly 30,000 in clinic attendances, mainly due to the extension of the dental facilities and to a rapidly growing number of minor surgical dressings, of which both parents and teachers are eager to avail themselves. Routine dental inspection is now carried out in 122 out of 137 schools. This has been rendered possible by augmentation of the dental staff which now numbers eight dental surgeons with the necessary assistants (this gives one dentist to about 9500 school-children), and a new branch clinic opened at Heeley last May. A special feature in Sheffield is the extension of facilities for children actually suffering from toothache and the large use made of them. This scheme is seemingly in contrast with the policy of some other large towns, such as Hull, where casual treatments are being eliminated and attention concentrated on prophylactic work. Dr. Chetwood notes that the percentage of parents accepting treatment for their children was five more than last year; the present figure of 58 per cent., he says, is better than in some other large areas. An activity more nearly preventive in character is the rheumatism scheme which is to be considered in Sheffield at an early date. An outstanding event of the year was the opening of the new open-air school at Bents Green with 50 resident children and 100 day scholars. Children are transferred from the residential to the day school; the improvement in health is shown especially in a higher standard of nutrition, of skin condition, and of cleanliness. The proportion of children in nursery schools may as yet be small, 270 places for 98,447 children of school age, but the results are such as to encourage the hope of rapid extension. This report lacks the accounts of special investigations which were formerly such an interesting feature of Dr. Chetwood's record.

Eccles.

Dr. J. E. Spence directs his glance over the child's whole school life and backwards to its need for care before coming to school. The close coördination of the infant welfare and school medical work has been maintained, and continuous supervision exercised from birth up to the school-leaving age; the two services are in fact unified in Dr. Spence himself. There are no nursery schools in the borough, but 586 children between the ages of 3 and 5 were in attendance at elementary schools. All the facilities of the school clinics are available for infants and toddlers; during the year there were referred from the infant welfare centre 45 cases of minor ailments, 20 for squint and defective vision, and 37 for toothache. A special inspection was made by Mr. Harry Broughton, L.D.S., of 119 children aged 5, to ascertain what advantage, if any, was to be gained by earlier routine treatment—i.e., beginning at 5 instead of 6. Of this sample 63 per cent. were found to need treatment, and the support of the parents was satisfactory. At the age of 5 the treatment needed is not generally extensive, and the advantages of improved general health and freedom from pain and disturbance are great. Earlier inspection would no doubt facilitate the orthodontic work on which Mr. Broughton spends much care. Orthopædic treatment is being developed in a scheme by which children are dealt with at the Irlam clinic of the Lancashire County Council, to which they are conveyed, if necessary by ambulance, in charge of one of the school nurses. They are there seen by Mr. E. S. Brentnall, under whose supervision remedial treatment is carried out, those requiring prolonged hospital treatment being sent to the orthopædic hospital at Biddulph; minor operations are done at Ancoats Hospital. Out of 30 children taken to the clinic, 9 were under school age. A frequent source of deformities is infantile rickets which might have been avoided if the parents had made better use of the welfare centres, but it is difficult to convince parents of the need for early treatment when their other children had bow legs and "grew out of them." A similar attitude is equally a hindrance in the case of impaired vision and stammering. It seems strange that in a time of depression like the present, when employment is difficult to obtain for the normal child, parents fail to realise what a poor chance there is for those with a disability. There is in Eccles a stammering class which does excellent work and could do more with parental coöperation. Dr. Spence wishes that the children themselves should realise their handicaps and so be led to get quit of them, but most teachers are anxious of the

sense of inferiority felt by the child who dwells on his own disability.

Soke of Peterborough.

Dr. Christopher Rolleston mentions the experiment of inviting parents to bring their younger children, who in other areas would be dealt with at infant welfare centres, to be examined at the school inspections. The plan was good but, unfortunately, the response was small. Good progress has been made with the scheme for dealing with tonsils and adenoids, 38 children in the last twelvemonth, compared with 12 in the previous. Five were operated on privately, making a total of 43 receiving treatment out of 101 needing it, a proportion smaller than that for the country as a whole, which is 55 per cent. It should be noted, however, that the percentage of children considered to need treatment in the Soke is high—10·5 compared with 6·6 for England and Wales; thus it is probable that quite as large a proportion of the obvious cases were dealt with in this area as elsewhere. Dr. Rolleston gives his reasons for attaching importance to the presence of tonsils and adenoids: deafness and earache were common; in 70 per cent. definite changes were seen in the drum of the ear; malnutrition, rheumatism, and pigeon-chest were found, and, above all, mental retardation. In dental work again there is evidence of a high standard of ascertainment: every child in the Soke was inspected and 80 per cent. were found to need treatment, compared with only 56 per cent. inspected and 68 per cent. of them deemed to need treatment in the country as a whole. But in the Liberty of Peterborough the percentage of acceptances was low: 45 against 59. Both with adenoids and with dental decay Dr. Rolleston thinks the failure to accept the facilities is mainly due to the children; "the modern child," he writes, "rules its parents with a rod of iron, and if the coöperation of these juvenile tyrants could be secured, the statistics would be enormously improved." Dealing with results, he observes: "If, however, dental inspection and treatment are carried out annually, the parents can be told that the children, when they leave school, will have sound teeth, but, unfortunately, when they leave they do not enter upon the National Health Insurance scheme for another two years, and it is another two or three years before they are entitled to dental benefit, so that a large proportion of the good work of the school dental service is undone." Of the teaching of hygiene, he paints a gloomy picture: "Generally speaking, no definite time is assigned to this teaching, nor are the children held to share in the responsibility for the care of ventilation and cleanliness of class-rooms and the proper conditions of lavatories and playgrounds. What are the results of this neglect? In the first place the children do not appreciate that disease and even death are conveyed by uncleanly habits. . . . From all this neglect come outbreaks of infectious disease and much chronic ill-health, while the provisions for medical and dental treatment are not appreciated." Here as elsewhere in the report Dr. Rolleston's frankness is devoid of offence, for his concluding words contain an expression of thanks to teachers for the interest they show in the physical well-being of their scholars.

INFECTIOUS DISEASE

IN ENGLAND AND WALES DURING THE WEEK ENDED APRIL 11TH, 1931.

Notifications.—The following cases of infectious disease were notified during the week:—Small-pox, 177; scarlet fever, 1480; diphtheria, 844; enteric fever, 35; pneumonia, 1410; puerperal fever, 48; puerperal pyrexia, 109; cerebro-spinal fever, 73; acute poliomyelitis, 1; acute polio-encephalitis, 1; encephalitis lethargica, 16; dysentery, 2; ophthalmia neonatorum, 81. No case of cholera, plague, or typhus fever was notified during the week.

The number of cases in the Infectious Hospitals of the London County Council on April 14th–15th was as follows: Small-pox, 190 under treatment, 7 under observation (last week 221 and 5 respectively); scarlet fever, 1223; diphtheria, 1602; enteric fever, 36; measles, 136; whooping-cough, 454; puerperal fever, 27 (plus 14 babies); encephalitis lethargica, 129; poliomyelitis, 2; "other diseases," 188. At St. Margaret's Hospital there were 17 babies (plus 8 mothers) with ophthalmia neonatorum.

Deaths.—In the aggregate of great towns, including London, there was one death from small-pox, none from enteric fever, 64 (1) from measles, 8 (3) from scarlet fever, 39 (7) from whooping-cough, 27 (9) from diphtheria, 49 (8) from diarrhœa and enteritis under two years, and 175 (20) from influenza. The figures in parentheses are those for London itself.

The death provisionally classified to small-pox was assigned to Stepney (metropolitan borough). Only 4 deaths from meningococcal meningitis occurred in London, 1 from 1–2 years, 2 from 25–35 years, and 1 from 35–45 years. Seventeen fatal cases of measles were reported from Liverpool, 16 from Birmingham. Manchester reported 5 deaths from whooping-cough, Sheffield 3. Diphtheria claimed 4 victims at Liverpool. Diarrhœa accounted for 5 deaths at Liverpool and 4 deaths each at Stoke-on-Trent, Birmingham, and Salford. The 155 fatal cases of influenza outside London are scattered over 66 great towns: 15 were reported from Birmingham, 8 from Sheffield, no more than 6 from any other large town.

The number of stillbirths notified during the week was 318 (corresponding to a rate of 47 per 1000 births), including 60 in London.

DEATH CLASSIFIED TO SMALL-POX.

The death mentioned above, provisionally classified to small-pox, was that of a female infant, aged 7 days, which occurred on April 1st, the cause of death being certified as "inanition, small-pox in utero." Dr. Julia M. Browne, medical officer of health for Stepney, informs us that the infant's mother was removed to hospital with small-pox on Dec. 13th last and was discharged on Jan. 7th. The child was born on March 25th almost moribund—a small, poorly developed baby, with a sodden, unhealthy looking skin. There were one or two marks on the chin and elsewhere which could by reason of their character be reasonably attributed to small-pox occurring in utero. Dr. Browne adds: "It seems to me that the mother contracting small-pox three months before the birth of the child precludes the possibility of small-pox in utero being the immediate cause of the death of the child."

CONTRIBUTORY SCHEME FOR ADDENBROOKE'S HOSPITAL.—The governors of Addenbrooke's Hospital, Cambridge, last week adopted a contributory scheme prepared by the general committee of the hospital and the committee of the Cambridge and district workers' hospital fund. The scheme is divided into two sections. One covers the borough of Cambridge and will be administered by the workers' fund; the other will cover the whole of the rest of the area served by the hospital and will be administered by the governors. There will be a maintenance charge for both classes of non-contributing patients, letters of recommendation will no longer be necessary, and a paid almoner is to be employed. It is expected that the scheme will be in working order by October next.

REOPENING OF TENBURY HOSPITAL.—The decision, which was arrived at in November, 1929, to close Tenbury (Worcestershire) cottage hospital and sell the building and equipment has now been rescinded. Meetings to ascertain local opinion had a very favourable result, and it is estimated that a contributory fund of £800 will be available, and the help from other sources will bring the total income to about £1290 which it is thought will suffice to maintain all the activities of the institution. It is proposed to provide a medical service to include the treatment of patients in their own homes by district nurses, treatment at Tenbury Hospital, and, where necessary, at Worcester, Kidderminster, and other large hospitals.

CORRESPONDENCE

THE POST-GRADUATE HOSPITAL AND SCHOOL.

To the Editor of THE LANCET.

SIR,—The advent of a satisfactory centre for post-graduate medical education in London has advanced a stage further. Even if all cannot entirely share the optimism of the Minister for Health which prompted him to describe the institution of the post-graduate hospital and school as "perhaps the biggest single step taken since the war in this country in the interest of public health"[1] yet we may certainly believe that the conclusion of the preliminary labours of the organising committee and its entry on the task of setting up a governing body of the hospital do really foreshadow a centre for post-graduate education on a large scale, such as many, including THE LANCET, have for years worked and pleaded for. Mr. Greenwood's hopes can be shared even if we are a little shy of his sanguine expectations, for there are difficulties which may beset and obstacles which may oppose that consummation which the Minister of Health and the medical profession in common hope to witness.

Why has post-graduate education in London hitherto been but a partial success and why should it be more satisfactory in the future? In order to answer these questions convincingly we must first decide at what exactly this education will aim, or to put it more correctly what kind of post-graduate students do we hope and expect to attract? If, as some who have written on this subject appear to believe, the authorities hope and expect to compete with Vienna and Paris and Berlin in attracting medical men from all over the world, then, I am sure, many will agree with me and regard such expectations as ill-founded. There is at least one overwhelming reason which makes it impossible for London to compete with continental capitals in a worldwide appeal to post-graduates. What the post-graduate values above all is the opportunity to do for himself those things which he has not yet had the chance of doing. It is not enough that he should listen to lectures on, or even witness demonstrations of, the new methods of diagnosis and of treatment of which he has probably already read. It is the actual carrying out of these manœuvres, after due instruction, which is the most valuable contribution that post-graduate courses can offer him. Now this is where the continental method has an insuperable advantage over the British. In the clinics of Vienna, for example, patients are available for the eager, if unpractised, hands of the post-graduate learner to an extent which our notions of what is due to the patient's feelings and well-being render impossible here. Therefore the British post-graduate school cannot offer the facilities, let us say, for learning to use an endoscope or for carrying out gynæcological examinations or minor operations, that are put at the post-graduate's disposal in almost infinite quantity by the great clinics abroad. Hospital departments, with us, exist primarily for the benefit of the patients, but post-graduate centres abroad exist primarily for the benefit of the students. This British disability, admirable though its cause, is bound to prevent our post-graduate school from entering into exact rivalry with the great European centres by attracting foreigners, or even our own men from overseas.

As far as success for our post-graduate school rests on the support of our own doctors the answer depends on the quality of the opportunities offered, and here, no doubt, in buildings, equipment, clinical material, and the personnel of the teaching staff, the new hospital and school will provide all that the most exacting could demand. The Government are obviously generously disposed so far as financial endowment is concerned. Why, then, doubt for a moment the extent to which medical men in these islands will avail themselves of a fine opportunity for refurbishing from time to time their knowledge and skill? The answer lies, of course, in the exigencies of the practice of medicine. It is no easy matter for the practitioner, especially if practising single-handed, to leave his practice to undergo a course of post-graduate instruction; many find it none too easy to make the annual break which considerations of health and of family render almost imperative. For those who have partners the difficulty is, of course, much lessened. Unfortunately, it is the man who practises single-handed who may feel most keenly the need of either "refreshing" or new special instruction.

It is a splendid thing that a great post-graduate centre is to commence its activities in the metropolis, but its institution brings difficulties alike in the selection of the staff and the recruiting of the students, other than those who belong to services where facilities for study leave are provided.

I am, Sir, yours faithfully,

April 20th, 1931. SIMPLICITAS.

[1] The Times, April 15th.

UNDULANT FEVER IN SHIPS.

To the Editor of THE LANCET.

SIR,—I would like to thank Fleet-Surgeon Home for drawing my attention to the mysterious epidemic of fever in H.M.S. *Thalia* which had escaped my notice when searching the naval records of 1883. This epidemic is better evidence than any I gave in the Milroy lectures, that brucella infection in ships was often transmitted directly from man to man and not by milk. The *Thalia* was carrying out relief crews to ships in China; she obviously embarked *Br. melitensis* when she touched at Malta. Undulant fever continued to spread in the *Thalia* till she arrived at Hong-Kong, and in the ships of the China squadron, to which she transferred her drafts. Listen to this description of "*Thalia* fever": "The temperature generally remained high up to the fourteenth day when it commenced to fall sometimes to normal . . . . after a period of normal temperature a relapse occurred without any indication, and so on for three or four attacks over a period of several months." In addition there is the absence of mortality, the rheumatic sequelæ, and "the tongue coated with a thick white fur, tip and edges red." Is it possible to apply this description to any other condition than undulant fever? Fleet-Surgeon Home says, "Surely this fever was due to want of ventilation, and not brucella septicæmia." If the negative is omitted, I agree with him. It was the gross overcrowding and bad ventilation of the transport which permitted the direct transmission of *Br. melitensis* from man to man.

I am, Sir, yours faithfully,

SHELDON F. DUDLEY.

Royal Naval College, Greenwich, April 18th, 1931.

OUT-PATIENT DEPARTMENTS AT VOLUNTARY HOSPITALS.

To the Editor of THE LANCET.

SIR,—In your leading article of March 14th you begin with the sentence: "The least satisfactory feature about our hospitals is the out-patient departments." The same dissatisfaction is revealed in certain suggestions concerning out-patient departments at voluntary hospitals brought forward by the Council of the British Medical Association in the Supplement to the *British Medical Journal* of Feb. 21st. As is, of course, well known the Council of the Association brought forward last year another scheme which envisaged the extension of the National Health Insurance Act to the dependents of insured persons, and the present suggestions are supplementary to that scheme, which, if adopted, would bring probably seven-eighths of the whole population of this country under the operation of the Insurance Acts.

The out-patient departments of the voluntary hospitals have become something of an eyesore to those who are anxious to consolidate all the public medical services as far as possible in the hands of the practitioners who work the Insurance Acts. Pari passu with this movement, of which the Council of the British Medical Association is the spearhead, there is another movement which seeks to nationalise the whole medical profession and to transfer entirely to State control all the medical services, including both the panel and the hospitals. The latter movement, which has the whole-hearted support of the Labour party, and which indeed forms one of the planks of their programme as detailed in "Labour and the Nation," has received a very remarkable stimulus from the propositions put forward last year by the Council of the British Medical Association. In a leaflet recently published by those who are promoting a nationalised medical service the proposals of the Council of the British Medical Association as regards extension to dependents are welcomed as a very important advance in the direction of nationalisation. These promoters say, in fact: "We consider that the scheme, with modifications, could be made a forward step towards a free public universal medical service," which is the ideal aimed at by the Labour party. I do not now propose to consider the suggestions of the Council of the Association regarding the inclusion of dependents, but to deal more particularly with their latest proposals regarding out-patient departments at voluntary hospitals.

The British Medical Association, which by its constitution and traditional policy is mainly concerned with the defence of the interests of the panel practitioner, is disturbed by the growth of out-patient departments, and these suggestions are made to counteract that growth, which indeed shows a progressive and, perhaps, unexpected increase. One would have thought that the establishment of national health insurance, with its compulsory contributory clauses, bringing very large numbers of the working population under its operation, would have depleted the out-patient departments at the voluntary hospitals, and this expected result actually occurred in the years immediately succeeding the passage of the Act; from 1911 to 1920 the numbers of out-patients materially diminished. Statistics demonstrate that from 1920 onwards the figures of out-patient departments have risen each year until now they exceed the figure for the year 1911, when the Insurance Act first made its appearance. In the latest report available, published in 1929, in 661 hospitals in England and Wales, excluding London, the number of out-patients is given as 2,589,312, as against 2,136,770 for 657 hospitals in the same area in 1921. A similar growth is recorded for the London hospitals; in 1921 there were 1,451,533 new patients at the out-patient departments, as against 1,760,807 in 1929. The reasons for this growth are difficult to assess and are probably very complex and diverse. I do not think it can be gainsaid that the control by the State of insurance practitioners has steadily increased with the years since the Act came into operation in 1912. With the extension of State control the service of the Acts has undergone some modification, and there is an increasing interference with the liberty of the practitioner by Government departments. Partly, perhaps, as a result of that interference there are widespread indications that insured persons themselves are increasingly dissatisfied with some of the circumstances of national health insurance and I submit that this change of feeling would go far to explain the increased popularity of the out-patient departments at the voluntary hospitals; those who are in charge of departments at the hospitals must have been impressed by the frequency with which patients coming to out-patients declare that they come because they are dissatisfied with the service which they have received under the panel.

With the present system of contributions by out-patients the visit means a direct expenditure by the patient that in itself argues a certain discontent with the panel service for which he has to make a contribution, but which he does not use. The English race is probably the most individualistic in the world, and those who imagine that they can force English men and women to accept a medical service which they dislike are singularly oblivious of the national character. One can take a horse to the water but one cannot make him drink.

Let us now examine the suggestions which the Council of the British Medical Association puts forward to divert the hospital out-patient from the hospital to the panel practitioner. In the memorandum just issued the thesis is laid down that the primary object of the out-patients department should be for consultation, and the following clauses contain the gist of the proposals:—

"That while there should be adequate opportunities for consultation purposes between the private practitioner and members of the visiting medical staffs at out-patient departments, practitioners should not countenance the use of that department by their patients, except in the ways laid down in this memorandum.

"That no person, except in cases of emergency, should be accepted for treatment as an out-patient at a voluntary hospital unless he brings a recommendation from a private medical practitioner, a provident or other dispensary, a public clinic, or from a public assistance medical officer of a local authority."

As a corollary of these propositions it would seem to be required that every new patient coming to a hospital without bringing a letter should be referred back to his own doctor, and that treatment should only be given when the sanction of the doctor has been obtained. Hospitals are not to receive patients unless "countenanced" by the panel practitioner, acting under the orders of the Council of the British Medical Association. The large and increasing class of patients who are dissatisfied with the conditions of panel practice and would not ask for letters from their doctors would thus be refused both consultation and treatment, and inasmuch as the opportunity which the out-patient departments afford to persons who think they have been inadequately treated, and who may in fact have been inadequately treated, would thus be abolished, to the great detriment, I submit, of the

insured population, hospitals enforcing these regulations would be in immediate conflict with a large body of public opinion. Even if the medical profession wished thus to convert itself into a trades-union, which I question, would it be strong enough to force such a position on the community, and would not such a step be the surest way of playing into the hands of those who so ardently desire the nationalisation of all the medical services?

I believe (and I am sure that my belief is shared by many) that if it had not been for the resources provided by the voluntary hospitals the national health insurance service would have long since foundered, and it seems to me to be singularly short-sighted for those who desire the retention and even extension of that service to take the action which they are now proposing in the direction of restraining by artificial regulations the resort by panel patients to hospitals.

I do not think that members of hospital staffs have given any serious thought to these matters, and I think it is high time that they should do so. At this crisis when the voluntary hospitals are being subjected to a competition from State-aided institutions enjoying, for the moment at any rate, the hectic prosperity engendered by an unprecedented squandermania that seem to have infected all local public authorities, the abrogation of unrestricted access to these hospitals, which the community shows an increasing desire to obtain, seems to me to be a disastrous step to take, and one entirely opposed to the best traditions of the voluntary hospitals themselves. The strength, and it is a very enormous asset, of the voluntary hospital system lies in the fact that voluntary service consorts with the temperament and tradition of the English race. Its weakness, and it is a deplorable weakness, is that action is too often isolated when it should be concerted. Unfortunately there is no efficient official organisation to ensure such concerted action. There is, however, one body to which, in my submission, the *London* voluntary hospitals, at any rate, could make a common application for advice and guidance, a body which enjoys an increasing prestige with the subscribing public and with the hospitals themselves—namely, King Edward's Hospital Fund—which has been able to secure the wise simplification and uniformity in presentation of hospital accounts which now prevails; before accepting any departure of policy so radical as the imposition upon the voluntary hospitals of a purely consultative service as desired by the Council of the British Medical Association, I venture to suggest that the hospitals should consider the whole problem jointly with each other and in consultation with the authorities of that Fund.

I am, Sir, yours faithfully,

E. GRAHAM-LITTLE.

House of Commons, April 21st, 1931.

SYPHILIS AND YAWS.

To the Editor of THE LANCET.

Truth crushed to earth shall rise again:
Th' eternal years of God are hers;
But Error, wounded, writhes in pain,
And dies among his worshippers.
(*Bryant.*—The Battle Field, St. 9.)

SIR,—The first two lines of the above stanza are doubtless true. William Cullen Bryant was wrong, however, in the two last lines of this verse because error crushed to earth will do the same thing as the poet found truth would do: it will rise again. Some medical errors seem not to do much "writhing" among their worshippers either. Many are hoary with age and yet physicians are perpetuating them to-day in both popular and professional literature. In other words, physicians are the chief worshippers of these errors.

The Ancient European ancestry of syphilis may be shown in a dozen ways, direct and indirect, and yet we find in current literature physicians subscribing to the moth-eaten fallacy that syphilis is of New World origin. So, too, with the yaws fallacy. Since the time of Sydenham and long before him, there have been English and Continental physicians who "thought and taught" correctly about frambœsia. Berkeley Hill of English and E. Lancereaux of French physicians, both of the third quarter of the nineteenth century, have shown how completely the yaws syndrome is identified with syphilis. The researches of these older writers have been backed up by clinical, epidemiological, and laboratory researches without number. On the other hand, research workers during the past forty years trying to prove the theory of duality of viruses have failed, so that to-day it is possible to say that yaws is purely an artefact erected over the disease syphilis. This statement is made with the hope that some dualist will produce evidence to the contrary. There has been ample time for all such evidence to assert itself.

The yaws fallacy has persisted in medical literature for two hundred years almost and is so far advanced that practically all English, Continental, and American text-books on tropical medicine give it extensive description. This is due largely to the "library case" made out for yaws and to the repetition from volume to volume and edition to edition of the ever-growing fallacy, thus completing the vicious circle between teacher to student. Recalling the fate of Socrates in similar case, we may well feel that some fallacies of the "Guild of Æsculapius" are virtually immortal and that truth when crushed to earth often takes centuries "to rise again."

I am, Sir, yours faithfully,

C. S. BUTLER,
Captain (M.C.), U.S. Navy.

Washington, D.C., April 8th, 1931.

THE ST. LUKE'S HOSPITAL, HEBRON.

To the Editor of THE LANCET.

SIR,—Is there any medical man among your readers, or known to any of your readers, who would consider an invitation to take charge of St. Luke's Hospital, Hebron, in Palestine? This is a mission hospital, which is financed by the Jerusalem and the East Mission, and is the only hospital in this large Moslem town of 16,000 people. There is no other hospital within 20 miles, and there are many villages in the district which have no other place to turn to for treatment. The experience of the last 18 months has shown that in fact village patients come in considerable numbers from a very wide area, sometimes walking two or three days to reach the hospital.

Medical missionary work has been carried on in Hebron for 38 years, before the war by the United Free Church of Scotland, and since the war by the Church of England. The actual hospital building is new and has been brought up to date, with its own electric light plant, &c., during the last few months at an expenditure of some £3500. There is an English sister as matron and a competent native doctor and staff. The whole usefulness of the hospital is at present seriously limited by the lack of an English doctor. From the professional point of view the work would be most interesting, and it is essential that whoever offers should be a surgeon. There is no other

missionary work at present possible in the town or neighbourhood, so that the opportunities before the hospital cannot be exaggerated. There is a chapel in the hospital building, and the grounds are large enough to permit of building a house for the doctor if suitable rented accommodation is not found. From the date that it was reopened, in September, 1929, just after the serious riots, the work of the hospital has received a great welcome from the people of the town, while relations with British government officials have been most cordial.

If any of your readers desire further particulars would they communicate with my Commissary, the Rev. E. M. Bickersteth, Secretary of the Jerusalem and the East Mission, 12 Warwick-square, London, S.W.

I am, Sir, yours faithfully,

RENNIE MACINNES,
St. George's Close, Jerusalem, April 11th, 1931. Bishop.

PARLIAMENTARY INTELLIGENCE

NOTES ON CURRENT TOPICS.

MINISTRY OF HEALTH VOTE.

CRITICISM OF GOVERNMENT'S RECORD.

ON April 14th the House of Commons discussed in Committee of Supply a vote of £13,116,212 for the salaries and expenses of the Ministry of Health.

The speech of Mr. GREENWOOD (Minister of Health) in introducing the vote was reported in THE LANCET last week.

SICKNESS AND DISABLEMENT BENEFIT.

Sir KINGSLEY WOOD said he was glad to hear what the Minister had said about National Health Insurance claims, because they were giving considerable anxiety to many of the approved societies. He observed that only a week or two ago the Controller of National Health Insurance, when addressing an important insurance conference, stated it was still necessary for certain societies to strengthen the safeguards adopted by them in connexion with the supervision of claims. He (Sir K. Wood) was glad to know that within the last few months the Minister of Health, without being accused of treating unfairly and improperly the insured classes of the country, had altered, for instance, the regulation affecting change of doctor by insured persons, and that in other ways he was endeavouring to tighten up administration. With regard to the Local Government Act, they were told in 1928 by Mr. Greenwood that that Act perpetuated the evils of the poor-law system, made no provision for the prevention of destitution, and was calculated to increase the high mortality rates among mothers. Only a fortnight ago, however, the right hon. gentleman was saying how smoothly the enormously complicated transfer of functions under the Act had been carried through. He had also said that the transfer merited high praise for all those concerned in it. With regard to the question of housing, Sir K. Wood said that after two years of a Socialist Government more than 200,000 building operatives were walking the streets unemployed; a large number of people had failed to obtain the housing accommodation which they were promised; the output in municipal building had been reduced, and but for the contribution of the private capitalistic builder, there would not have been built even sufficient houses to meet the ordinary growth of the population, and to replace wastage.

MATERNAL MORTALITY.

Viscountess ASTOR said there was a way out of the slum problem, and that was the provision of open-air nursery schools. The Minister of Health had said he was pleased with the health of the country, but in 1929 88,524 children died under the age of 15; and of these 74,497 were under the age of 5. Infant mortality had gone down, and the great loss of life really occurred between the ages of 2 and 5. The House might have expected that the Minister of Health would have some plan for dealing with the situation. She hoped the Government would face up to the problem before it was too late. The Minister of Health was pledged up to the hilt to deal nationally with the question of maternal mortality, but he had not said one word about it in his speech. That was disappointing and disheartening.

HEALTH INSURANCE.

Dr. MORRIS-JONES said he was very disappointed with Mr. Greenwood's speech. The Ministry of Health touched intimately the lives of the people. He had hoped that the right hon. gentleman would have made some reference to future legislation dealing with national health insurance. He was very pleased to hear that the cost of sickness and disablement benefit was reduced last year by £2,000,000. That was a testimony to the very efficient public health services of the country, which were the best in the world. National epidemics of diseases, such as influenza, had been proved to be capable of prevention to a very large extent. He was pleased to find in the report of Sir George Newman for last year that influenza was much less both in extent and virulence than in the preceding year. A great advance had been made in the treatment of this very serious type of illness, the consequences of which were immeasurable in their effect on the physique of the population. He was disappointed that Mr. Greenwood had not promised that the report of the Inter Departmental Committee on the alleged excessive claims for national health insurance sickness benefit would be published. They wanted to know the real causes of these excessive claims. If the report had been published the House would probably have been able to appreciate more clearly the recent departmental Order issued by the Minister of Health in regard to change of doctor by insured persons. That Order, which greatly curtailed the opportunities of the insured population to change their medical attendants, was issued contrary to the wishes of those who spoke for the medical profession. Their point of view was that it was not altogether in the interests of the insured person, and it was not in the interests of the efficiency of medical treatment to curb or limit drastically the opportunity of a patient to change his doctor.

POST-GRADUATE MEDICAL SCHEME.

The House had been much interested by the remarks of Mr. Greenwood with regard to the post-graduate medical school which was initiated by his predecessor, and had been followed up by the present Government. The advances in medical science in recent years had been tremendous, so much so that those medical men who had received their training 20 or 25 years years ago found the greatest difficulty in keeping up with the great and rapid changes in the prevention, diagnosis and treatment of disease. A hard-working general practitioner who worked day and night had very few facilities and inadequate leisure to enable him to study and to keep up to date in medical science. It was often said that specialists were the great people, but in his view the general medical practitioner was the first line of defence against disease. He came into contact day by day with the people, and it was of the greatest importance to the State and its citizens that the general medical practitioner should be up to date in all respects in medical science. General practitioners were often very poor. Medical men hardly ever died rich. He hoped the

Government would see their way to give facilities to general medical practitioners to come to London from time to time to revive and review their knowledge. He was disappointed that the Minister of Health had made no reference in his speech to the Welsh Board of Health, which was doing very fine work. He hoped the right hon. gentleman would give the Board every encouragement. He hoped that if Mr. Greenwood occupied his position this time next year he would be able to give the House a more hopeful, more optimistic, and more successful review of the work which the Ministry of Health had undertaken.

PURE MILK.

Mr. OSWALD LEWIS moved to reduce the vote by £100. He said that Lady Astor had referred to the subject of infant mortality. There was no single factor more calculated to affect the death-rate of young children than the purity or otherwise of the milk-supply. In this country the production, distribution, and sale of milk was watched at every stage, and as a result the nation got a very good supply of pure milk. The position in regard to imported milk substitutes, however, was not so satisfactory. The growing quantity of these substitutes which was being imported made this matter one of considerable importance. This country was one of the few countries where no minimum of milk fats was prescribed by law in respect of these milk substitutes. The Minister of Health stated that in his opinion such regulations were not necessary. He had also stated that these milk substitutes were in fact nutritious and did not contain anything likely to render them harmful as an article of diet. He (Mr. Lewis) was not sure that all members of that House were equally satisfied on that score. It was useless to spend money, time, and trouble in ensuring that the milk produced on our own farms reached the consumer in a pure condition if they were to take no precautions in regard to the steadily increasing proportion of the population who used imported milk substitutes of inferior quality.

Mr. KINLEY said in some areas it was suggested that applicants for relief were not fairly treated, and there was no medical standard of physical requirement. He appealed to the Minister of Health to consider whether he could not devise through his own medical officers some minimum physical standard to which all poor-law relief must conform.

Lieut.-Colonel FREMANTLE said the main problem in regard to milk in its relation to health did not lie in its cleanliness, although that was of importance; the main difficulty was to get the milk free from tubercle. Fifteen months ago he asked the Minister of Health if he would have an authoritative statement prepared by his department giving the main facts and conclusions with regard to bovine tuberculosis. The Minister of Health told him that the memorandum would be published, and the Parliamentary Secretary had later informed him that the memorandum was being printed and would be published at an early date. That was on Feb. 5th, but on April 14th the document had not been published. This was an instance of the dilatoriness in the Ministry of Health at the present time, and he hoped that when they took up a definite idea which had been proved to be helpful, they would push it through a little more quickly than they had done in the past. A new regulation had been made by which insured persons could not change their doctor without giving a quarter's notice. Some of the committees dealing with insurance considered that this was a most retrograde step. The medical practitioners did not ask for this restriction, and it had always been considered to be in the interests of both patient and doctor that there should be freedom of choice of doctor. The medical profession did not think that this change was advisable.

MEDICAL OFFICERS OF HEALTH.

The appointment of medical officers of health, especially of counties and county boroughs, was of great importance nowadays. At present those appointments were subject to inconvenient regulations by the Minister of Health. Hitherto the local authorities had had to make their own appointments separately and independently, and each local authority had its own staff. When a post of a medical officer of health was vacant the local authority advertised the appointment, but the conditions which were now imposed did not attract the best applicants. He wanted the Minister to see if he could not help in this matter. The changes which were necessary did not require any fresh legislation; all that was required was more coöperation with the local authorities concerned. He noticed that the senior appointments were limited to men under 40 years of age. That was one of the difficulties, and it was quite unnecessary to specify such an early age. When medical officers could hold these appointments up to the age of 60 years it seemed very unjust to limit them to applicants under 40 years of age.

Major ELLIOT said he could imagine no more important thing for a community to-day than to know whether the bone and the muscle of the people, the fibre of the nation, was becoming rotten or sounder, whether the health of the nation as expressed in tuberculosis statistics and infantile mortality statistics, and statistics for diseases such as cancer and diabetes was improving or not. After the long-continued stress of unemployment it was necessary to know whether it was being reflected in the physical constitution of the nation. Seldom had he heard the estimates of the Ministry of Health treated with such universal condemnation as they had been that day. Public health was not the only question that had been raised. The number of those in receipt of poor-law relief was still well over a million. In regard to housing the Minister of Health had ridden off on promises.

THE MINISTERIAL REPLY.

Miss LAWRENCE (Parliamentary Secretary to the Ministry of Health), replying to the debate, said although the figures of 1930 were not yet to hand, every indication pointed to the fact that 1930 was an exceptionally healthy year. Infant mortality had sunk to the lowest point ever known, and was now at the figure of 60. The claims on the approved societies showed a considerable rise for the first quarter of 1929, which was marked by the influenza epidemic. The claims were in round figures 15½ in 1928, 17¾ in 1929—due mainly to the influenza epidemic—and they were down now to rather over 15½. Cancer, unfortunately, was an exception to the general rule. They had been told that doctors objected to changes in the regulations which extended the period during which a patient might not change his doctor. As a matter of fact a doctor, if he chose, could let his patients go at any minute he liked. The medical profession had discretion in the matter. She hoped that the report on bovine tuberculosis would be published in a few days. The housing programmes of local authorities showed the immense increase of no less than 80 per cent. over the actual building last year carried out by those authorities. They were responsible last year for about 37,000 houses. Their programmes provided for an average of 67,000 houses a year for the next five years. In other words, the annual average would be considerably greater than the total attained during all the years since 1919.

The motion to reduce the vote was negatived by 199 votes to 72.

TOWN AND COUNTRY PLANNING BILL.

Mr. GREENWOOD (Minister of Health) in moving, on Wednesday, April 15th, the second reading of the Town and Country Planning Bill, said that the planning of built-up areas was a necessary corollary of any legislation designed to make a definite attack on the slums and arrange for the demolition of slum property. It was of vital importance that the areas which were cleared of slum property should be developed on sound, sane, and economical lines, and in the rehousing of slum dwellers it was important

that the local authorities should act on a definite plan. He regarded planning as an important economic problem and as a means of national economy. The first clause of the Bill dealt with the extension of planning powers. It was made quite clear that planning should now be extended to built areas. It also extended the need for planning to rural areas. It was provided in Clause 3 that regional committees should make their regional schemes to be filled in afterwards by local authorities in Clause 9, with supplementary schemes. It was further laid down in Clause 13 that the details of a scheme could be approved by supplementary orders. Compensation would be excluded in the case of the prohibition of the use of land for a purpose likely to involve danger to the health of the neighbourhood or be seriously detrimental to it—such purposes, for example, as refuse dumps and so forth. As the law stood at present the local authority might claim one-half of the betterment which accrued from a town-planning scheme. He saw no reason why the local authority should not, under this scheme, claim 100 per cent. of the betterment, and that was so provided in Clause 19. The provision in the Bill in regard to garden cities and satellite towns was in principle that contained in existing legislation. If new garden cities were to be established and developed successfully they should be planned properly from the outset. He hoped that it might be possible to discuss the principles of the Bill in Committee with a considerable measure of agreement.

BETTER LATE THAN NEVER.

Mr. CHAMBERLAIN said that Mr. Greenwood had worked in the wrong order. The right hon. gentleman told the House that a planning Bill of this kind was a necessary corollary to plans for slum clearance or the rehousing of slum populations. He (Mr. Chamberlain) said that it was a necessary precedent to it, not a corollary. He was sorry that the right hon. gentleman did not bring in this Bill first and the Act of 1930 afterwards. However, it was perhaps not too late in this Bill to draw the attention of local authorities to the fact that in any housing operations that they might carry out as a consequence of slum clearance they must pay attention not merely to bricks and mortar but also to the questions of transport and of the proper commercial use of the sites at their disposal. Speaking generally of the measure Mr. Chamberlain said that he regretted that there had not been more productive and fruitful thinking on a subject which he believed to be of great importance to the housing of the people in the future and of the proper development of the country and the town.

After further debate the Bill was read a second time without a division. The money resolution in connexion with the Bill was afterwards agreed to in Committee.

HOUSE OF COMMONS.

THURSDAY, APRIL 16TH.

Change of Panel Doctor.

Mr. ALBERY asked the Minister of Health if he would consider amending the new regulation which restricted the right of insured persons to change their medical adviser.—Mr. GREENWOOD replied: The answer is in the negative.

Tuberculosis in South Shields.

Mr. EDE asked the Minister of Health if his officer who recently investigated the prevalence of tuberculosis in South Shields made any report on the incidence of this disease in those parts of the borough where the partition of houses into tenements had taken place; whether the officer made any report on the rents demanded for such tenements; and whether he had taken any action on the report.—Mr. GREENWOOD replied: The answer to the first and second parts of the question is in the negative. As regards the last part, I have at the request of the town council invited a number of local authorities in the north-east of England to send representatives to a conference for the purpose of considering the question of institutional accommodation for the treatment of tuberculosis in that area, and it is hoped to arrange for the conference to be held at an early date.

Opticians and Health Insurance.

Mr. GRAHAM WHITE asked the Minister of Health the total number of approved opticians, distinguishing between qualified and unqualified persons, under the national health insurance scheme.—Mr. GREENWOOD replied: I have no information as to the number of opticians who undertake the supply of optical appliances to insured persons entitled to ophthalmic benefit under the National Health Insurance Scheme. The regulations governing the administration of this benefit do not provide for the approval of opticians.

MONDAY, APRIL 20TH.

Medical Authorities and Commutation Applications.

Sir HERBERT CAYZER asked the Minister of Pensions whether he was aware that hardship was being caused to retired regular officers whose applications for commutation had been refused on medical grounds; and if he would consider placing such cases before the medical authorities' commutation board for a ruling decision, especially where officers were also in receipt of service retired pay and wounds pensions in addition to disability pension.—Mr. F. O. ROBERTS replied: Under the Pensions Commutation Acts and Regulations the Minister of Pensions is required to determine whether any application for commutation should be recommended to the Pensions Commutation Board for consideration, and regard is necessarily had to the officer's state of health and expectation of life. Where any medical advisers consider that the case is unsuitable on these grounds it is not possible for me to recommend it.

Unfit Houses in Walsall.

Mr. MCSHANE asked the Minister of Health in respect of the county borough of Walsall the number of houses certified as unfit for human habitation; and the number of houses proposed to be built under the Slum Clearance Act, 1930, during the next five years.—Miss LAWRENCE (Parliamentary Secretary to the Ministry of Health) replied: My right hon. friend is informed that 274 houses in the county borough of Walsall have been represented by the medical officer of health as being unfit for human habitation. The council propose to build 1000 houses under the Housing Act, 1930, during the next five years in addition to 3000 houses under the Housing Act, 1924.

Cattle and Intradermal Test.

Brigadier-General CLIFTON BROWN asked the Minister of Health whether his attention had been drawn to the uncertainties of the intradermal test on cattle for tuberculosis; and if, in view of its unreliability, he would take steps to standardise the tuberculin on the market so that all tests could be carried out with the same serum.—Miss LAWRENCE replied: My right hon. friend is advised that the intradermal test is the best form of the tuberculin test under ordinary farm conditions, but that the results obtained cannot be relied on unless tuberculin of sufficient potency is used. My right hon. friend is considering the question of the standardisation of tuberculin in consultation with my right hon. friend, the Minister of Agriculture and Fisheries.

Government and Hospital Sweepstakes.

Sir WILLIAM DAVISON asked the Home Secretary whether, in view of the information recently supplied to him and also of the losses which were being suffered by British hospitals by the falling off of subscriptions since the recent Irish Free State sweepstakes in aid of Dublin hospitals, he was now prepared to set up a committee to investigate the conditions and safeguards which would be necessary if lotteries were to be permitted as a method of raising money for approved public purposes.—Mr. CLYNES replied: I have delayed coming to a decision on this question in the hope that I might receive some definite indication of the attitude of those responsible for the more important charities. Such indication as I have received seems on the whole adverse. I think it will be wise to defer a decision for some time longer, particularly as there can, of course, be no question of legislation this session.

Insured Persons and Dental Benefit.

Mr. R. J. RUSSELL asked the Minister of Health the number of insured persons eligible to receive dental benefit under the scheme of additional benefits; the number of insured persons who actually received such benefit during the last year for which figures were available; the cost to the approved societies of the benefit in that year; and the total cost of the treatment given, inclusive of that part of the cost paid by the insured persons themselves.—Mr. GREENWOOD replied: The number of insured persons in England and Wales who were eligible in 1930 to receive dental benefit is estimated at approximately 10,500,000. Of these the number who actually received the benefit is

believed to be rather over 1,000,000. The cost of the benefit to approved societies in 1930 was, roughly, £2,100,000. As precise information is not available as to the amount paid by insured persons themselves, it is not possible to state the total cost of the treatment given.

TUESDAY, APRIL 21ST.

Blind Persons Act Administration.

Sir NICHOLAS GRATTAN-DOYLE asked the Minister of Health the cost of administering the Blind Persons Act, 1920, in England and Wales; the total number of registered blind persons in England and Wales on March 31st, 1931; the total number of blind persons between the ages of 50 and 70 years, and the number who were in receipt of blind old-age pensions, stating the reason why the remainder were not being granted pensions; the total number of blind old-age pensioners over 70 years of age; the number of blind persons in England and Wales under the various age-groups: 0–5 years, 5–16 years, 16–21 years, 21–30 years, 30–40 years, and 40–50 years; the total cost of pensions paid to persons under the Blind Persons Act, 1920; and the number of blind persons in receipt of poor-law relief and the average amount paid.—Mr. GREENWOOD replied: No complete figures are available of the total cost of administering the Blind Persons Act, 1920. The total number of registered blind persons in England and Wales was 52,727 on March 31st, 1929, the latest date for which official figures are at present available. According to unofficial figures obtained from the Counties' Associations for the Blind there were 56,853 registered blind persons on March 31st, 1930. Of that number 22,002 were between the ages of 50 and 70, and 19,048 were in receipt of blind old-age pensions. The estimated number in receipt of such pensions on March 31st, 1931, was 20,300. The remainder were not in receipt of pensions, either because they had not applied for a pension or because they did not comply with the statutory conditions for a pension. The number of blind old-age pensioners over the age of 70 is not known, because after attaining that age blind pensioners rank as ordinary old-age pensioners, "blindness" ceasing to be a statutory condition for a pension. The following Table gives the number of blind persons in England and Wales on March 31st, 1930, under the age-groups mentioned, according to the unofficial figures referred to above:—

Ages.	Number.	Ages.	Number.
0–5 ..	.. 267	16–21 ..	.. 1,637
5–16 ..	.. 2,461	21–50 ..	.. 14,354

Separate figures are not available for the age-groups 21–30, 31–40, and 41–50. The total cost of pensions paid to persons in England and Wales under the Blind Persons Act, 1920, for the year ended March 31st, 1931, was £512,000, and the estimated cost of administration for that year was £12,500. The information asked for in the last part of the question is not available.

Spotted Fever at Aldershot and Catterick Camps.

Mr. D. G. SOMERVILLE asked the Secretary for War if the military camp at Aldershot was now completely free from spotted fever; if cases were reported from Catterick camp; and whether there was any similar epidemic in other camps in England.—Mr. T. SHAW replied: During the present month there have been two fresh admissions to hospital at Aldershot in respect of cerebro-spinal fever. As regards Catterick, there have been four admissions during the present year. At no military centre other than Aldershot and Catterick have there been more than three cases during the present year, and there has been no epidemic at any military centre, sporadic cases only having occurred. The hon. Member does not, I hope, think that this is a disease occurring only among troops; it has, unfortunately, occurred also among the civil population.

Dunfermline College of Hygiene.

Mr. WATSON asked the Secretary for Scotland whether a decision had yet been arrived at respecting the proposed transfer of students from the Dunfermline College of Hygiene and Physical Education; and whether, in view of the opposition the suggestion had aroused and the trouble and expense the establishment of the college had caused to the Carnegie Dunfermline Trust, he could see his way to continue the work of the college as at present.—Mr. ADAMSON replied: It has been decided that as from October next the men students shall receive their training at the Glasgow Training Centre, where the necessary provision is being made. As regards the women students, I understand that the question whether they should ultimately receive their training at Dunfermline or elsewhere is likely to be considered at an early date by the National Committee for the Training of Teachers in conference with the Carnegie Dunfermline trustees, who act as managers of the college. In the meanwhile steps are being taken for the appointment of a woman principal to supervise the training of the women students at Dunfermline.

THE SERVICES

ROYAL NAVAL MEDICAL SERVICE.

THE following appts. have been notified:—Surg. Lts. V. G. Horan to R.N. Hospital, Plymouth, and R. C. Foster to *Bryony*.

ROYAL NAVAL VOLUNTEER RESERVE.

Proby. Surg. Sub-Lts. J. F. M. Milner and S. C. Suggitt to be Surg. Sub-Lts.

ROYAL ARMY MEDICAL CORPS.

Lt.-Col. W. G. Maydon retires on retd. pay.

Maj. (temp. Lt.-Col.) J. E. M. Boyd to be Lt.-Col., vice Lt.-Col. W. G. Maydon.

Maj. M. O. Wilson to be temp. Lt.-Col.

F. V. Cant is granted a temp. commn. in the rank of Capt.

TERRITORIAL ARMY.

Capt. A. W. Wakefield having attained the age-limit retires, and retains his rank, with permission to wear the prescribed uniform.

Capt. C. B. Macleod from 13th Highland Light Bde., R.A., T.A., to be Capt.

Lt. R. Anderton to be Capt.

M. C. Hounsfield (late Offr. Cadet Serjt., Cambridge Univ. Contgt., Sen. Div. O.T.C.), and James Morissey (late Offr. Cadet Lce.-Corpl., Liverpool Univ. Contgt., Sen. Div., O.T.C.) to be Lts.

Supernumerary for Service with the O.T.C.—Capt. H. E. A. Boldero resigns his commn.

INDIAN MEDICAL SERVICE.

J. Acheson to be Capt.

Bashi Lal Taneja and Hoe Min Sein to be Lts. (T.C.).

Lt.-Col. D. G. Rai retires.

ROYAL AIR FORCE.

Flight Lt. R. J. I. Bell is transferred to the Reserve, Class D. (ii).

HONORARY APPOINTMENTS TO THE KING.

The King has approved the appointment of Major-General H. Boulton, C.B., C.B.E., I.M.S. (Honorary Surgeon to the Viceroy of India), as Honorary Surgeon to the King; and Colonel C. W. F. Melville, I.M.S., as Honorary Physician to the King.

ORDER OF THE NILE.

The Insignia of Commander of the Order of the Nile has been conferred upon Major Joseph Clinton Collins, R.A.M.C., by the King of Egypt in recognition of valuable services rendered by him.

DEATHS IN THE SERVICES.

Major-General George Francis Angelo Harris, C.S.I., who died on April 16th in London at the age of 75, was the son of the late Major-General C. S. Harris of the Bengal Staff Corps, and received his early education at Bedford Modern College. Later he entered St. George's Hospital, and after qualifying with the L.R.C.P. Lond. and M.R.C.S. Eng., joined the Indian Medical Service in 1878, and saw service in the second Afghan War (medal). In 1893 he obtained the M.R.C.P. Lond., in 1902 the M.D. Durham, and obtained the F.R.C.P. Lond. in the following year. Among the appointments which he held were those of professor of materia medica at the Calcutta Medical College, and physician to the College Hospital, Inspector-General of Civil Hospitals in the Punjab and the United Provinces. He was also employed on medical work in Bengal. In 1911 he received the C.S.I., and three years later was made hon. surgeon to the King and to the Viceroy of India. He married in 1883 Alice, daughter of General A. E. Campbell, of the Bengal Staff Corps, by whom he had two sons and four daughters.

PLYMOUTH HOSPITALS.—An appeal is being made for at least £25,000 beyond the amount already subscribed to cover the cost of the extensions to the South Devon and East Cornwall and Royal Albert Hospitals. These two institutions, the Central Hospital and the Royal Eye Infirmary, together last year treated 5419 in-patients and 16,773 new out-patients, in addition to the work done at the city municipal hospital.

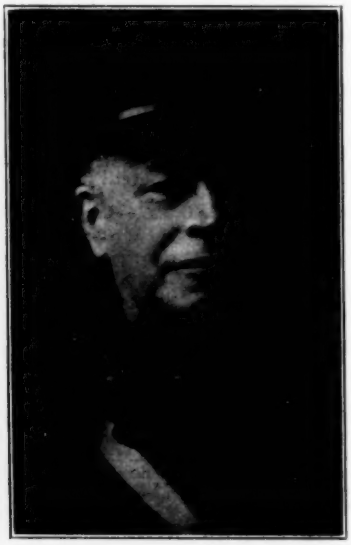
OBITUARY

THEODORE DYKE ACLAND, M.D., F.R.C.P.Lond.,

CONSULTING PHYSICIAN TO ST. THOMAS'S HOSPITAL.

WE regret to record the death of Dr. Theodore Acland, which occurred at his residence 19, Bryanston-square, on Thursday, April 16th, in the eightieth year of his age.

Theodore Dyke Acland was the younger son of Sir Henry Acland, the famous Regius Professor of Medicine at Oxford. He received his school education at Winchester, whence he proceeded to Christ Church, Oxford, and completed his academic studies with a first-class in the natural science schools in 1874. Entering at St. Thomas's Hospital, he graduated in medicine in 1880, taking the degree of M.D. in 1883.



DR. ACLAND.

[Photograph by J. Russell & Sons.

After filling the usual appointments he attended post-graduate courses at Leipzig and Berlin, and in 1882 was appointed demonstrator of physiology in the St. Thomas's Hospital Medical School. In 1887 he was elected to the assistant staff and from that time his medical career was a very full one and active along several lines.

While still working in the medical school he was sent by the Foreign Office to Egypt, for in 1883 a serious epidemic of cholera was causing much anxiety there. He remained in Egypt for some time serving with the Egyptian Army of which he became P.M.O. and where his services were rewarded with the Imperial Order of the Medjidie, while he also received the personal thanks of the Khedive. On returning to England he took up his duties at St. Thomas's Hospital, being also appointed to the Brompton Hospital for Consumption and Diseases of the Chest, and his work in both institutions marked him out as a high clinical authority. His qualities of character assisted him alike in the treatment of his patients and in securing from his house officers the best they could bring to their work. On the appointment of the Royal Commission on Vaccination, which sat for seven years from 1889, Acland was elected a member of the Commission and served throughout its protracted sessions. He brought an analytical mind to bear on the problems, both scientific and social, presented by the vaccination question, and those who have studied that report, and the documents presented to it, no less than the evidence, will recall the need that was required for wisdom and moderation in arriving at the conclusions.

In 1897 King Edward VII.'s Hospital Fund for London was instituted and Acland became a member of the visiting committee, while in 1906, on the foundation of the King Edward VII. Sanatorium he was elected physician to the institution; in both cases his selection for the duty was due to his repute as a fair and learned man, while his wide social connexions were of value to the organisations.

Acland was influential in the affairs of the Royal College of Physicians of London. Elected to the Fellowship in 1889, after the minimum period as a member, he was a member of council for two years, censor for two years (1913–15), and an examiner in medicine at the Conjoint Board. His services as an examiner were also requisitioned by the India Office, and by the Universities of Oxford (where he was also a member of the Board of the Faculty of Medicine), of Cambridge, Manchester, and Leeds. His sympathetic bearing no less than his clear-cut knowledge recommended him to the delicate task of sound examining, and in 1906 he renewed in this way his acquaintance with Egypt by becoming the first assessor of examinations to the Cairo Medical School. He was also elected a member of the Egypt and Sudan London Medical Board and medical officer to the Sudan Government. For these services he received, in addition to the Order of the Medjidie, the Imperial Osmanieh Order and the Order of the Nile.

During the war Acland's work was enthusiastically performed. Appointed a Lieut.-Col. R.A.M.C. (T.), his counsel was called upon in many directions both during and after hostilities. He was a consultant physician to the Ministry of Pensions, and to the National Council of the Y.M.C.A. in their efforts to meet the cases of the discharged and disabled soldiers, while he was also concerned in the provision of housing for disabled service men—the Seal Foundation. He put his energy and heart into all these schemes for the relief and betterment of the victims of war, and many will be mourning in him the loss of a friend.

Acland was not a frequent writer or a controversialist, though he made a considerable number of useful communications upon many subjects allied to medicine. To Allbutt and Rolleston's System he contributed the articles on vaccinia, actinomycosis, and subphrenic and other forms of peritoneal abscess; he edited the works of Sir William Gull, and for several years the St. Thomas's Hospital Reports.

The following tribute from Dr. V. S. Hodson, once Dr. Acland's house physician, gives a sympathetic picture of him: "From the day, now nearly 30 years ago, when I took up duty as Dr. Acland's house physician, friendship began between us, and as the years passed it grew and strengthened and, without setback or cloud, has been one of my most treasured possessions, and is now a hallowed memory. It would be difficult for me to say how much I owe him, whether as a teacher or friend, or as an example to be followed. From those far off days of hospital association I learnt many things from him, and I have never worked for anyone more appreciative or stimulating. His gentleness, courtesy, and sympathy in dealing with his patients were a permanent lesson, and his happy way of getting the best out of his subordinates by just expecting it and by relying on them to produce it was as successful as it was pleasant. I once heard one of his colleagues say that all Dr. Acland's geese were swans. I believe this to be more or less true and to mean, in reality,

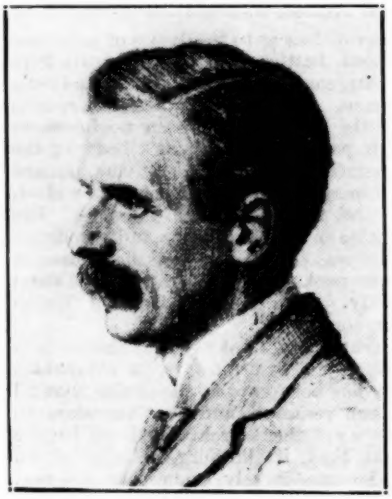
that he always thought the best possible of those who worked for him, with the result that the geese did their outmost to prove him right, and not disappoint his trust. No trouble was too great for him to take in behalf of a junior, for him his large and weighty influence was freely used. His charities were innumerable and almost wholly anonymous."

Dr. Acland married Caroline Cameron, the only daughter of the great physician Sir William Gull; she died in 1929, and one son survives, Captain Theodore Gull Acland.

JAMES LORRAIN SMITH, M.D. Edin., F.R.S.

Prof. J. Lorrain Smith died on April 18th. He had been ill for some months and had been relieved of his duty as Dean of the Medical Faculty.

Lorrain Smith was a graduate in arts of Edinburgh University and achieved distinction in philosophy. In 1885 he won the Ferguson scholarship in philosophy which, at that date, was the blue riband among competitive prizes open to graduates of the four Scottish universities. He had a very distinct philosophical bias and, had he kept to this line, he could have achieved a distinction as great as he ultimately did in medicine. But in 1885 he entered medicine at Edinburgh and took his M.B., C.M. in 1889 and his M.D. in 1893. After graduation, he studied for a period with Prof. Burdon Sanderson at Oxford, himself one of the rare philosophic minds in the physiology of that day. Afterwards, he worked under Prof. C. S. Roy at Cambridge, where he held the John Lucas Walker scholarship in pathology. He spent some time at Strassburg and Copenhagen. His earlier work was mainly in physiological research; but, while maintaining a strong interest in physiology, he took to pathology and the problem of all his teaching days was how to exhibit the physiological groundwork of pathology. He had acted at Cambridge as demonstrator in pathology, and later became first lecturer and then professor of pathology at Queen's College, Belfast. From Belfast he was appointed in 1904 professor of pathology in the University of Manchester and honorary pathologist to the Manchester Royal Infirmary. Eight years later he was appointed to the chair of pathology in Edinburgh University. While still in Manchester, he was a member of the General Medical Council and, later, he represented Edinburgh University on the Council.



PROF. LORRAIN SMITH.

Block lent by the "Scotsman."

Lorrain Smith had been a prominent and popular figure in British pathology for the last 30 years, in an important period of transition and development, and his loss will be deeply felt by his fellow-workers on personal no less than scientific grounds.

In his laboratory work he was at first closely associated with Prof. J. S. Haldane; they investigated the alleged mysterious poison in expired air, and the results were published in the first volume of the *Journal of Pathology and Bacteriology* when it was founded by the late Sir German Sims Woodhead and Mr. Pentland in 1892. He worked, too, at hæmoglobin in its various aspects, carbon monoxide poisoning, the secretion of oxygen by the lungs, and devised the first satisfactory method of determining the blood volume in man. From this last emerged his most fundamental discovery, worked out in Belfast—that the anæmia of chlorosis is due to the dilution of the blood with an excess of plasma, while in pernicious anæmia there is a real deficiency of hæmoglobin (*Trans. Path. Soc. Lond.*, 1900, li., 311). He showed the actual existence of a persistent state of anæmic plethora which Cohnheim and others had tried in vain to produce experimentally, and thus threw an entirely new light on the pathology of the disease. The new questions which his discovery raised have not been solved, and now that chlorosis has practically disappeared probably never will be. By this time Lorrain Smith was a professor of pathology. His further work lost the "physiological" tone which was so welcome, and ran along more conventional lines. The second investigation for which he will be remembered was pursued chiefly in Manchester, and mainly in collaboration with Dr. W. Mair and to a less extent with the late Dr. C. Powell White. It dealt with the nature and especially the microscopical identification of lipoids, and out of it came two well-known histological methods—the staining of fresh fat with nile blue sulphate which distinguishes neutral fats from fatty acids, and the extension of Weigert's bichromate-hæmatoxylin process for myelin to the examination of tissue lipoids. In this work he secured the useful collaboration of his chemical colleagues in the University of Manchester. Without counting a number of minor researches, Lorrain Smith has certainly left his mark on technical pathology.

But he will be remembered by the younger generation, perhaps particularly, as a sane, idealistic, and always friendly guide and leader—rather dreamy and vague sometimes in university affairs, by nature fond of the traditional methods of diplomacy, but always steadfast in his belief in sound learning and the pursuit of knowledge; no student or graduate can have ever got the idea from him that university education was not worth while. He had a singular faculty for encouragement. He fortunately had rather exceptional opportunities for developing his ideals. He went to Manchester to take over the pathological laboratory when the chair was divided and Delépine restricted himself to bacteriology, and in Edinburgh, in succession to Greenfield, he was the first professor of pathology without clinical beds to distract his attention. He also had much to do with the founding of the Pathological Society of Great Britain and Ireland in 1906 and the Pathological and Bacteriological Laboratory Assistants' Association in 1912—two organisations which have effected something like a revolution in British pathology.

All Lorrain Smith's research showed the philosophic grasp of his mind. He was never lost in detail. He had always before him the fundamentals of biology; indeed, it would not be too much to say that his primary interest in life was the philosophical

interpretation of biological phenomena. In his work, as dean of the medical faculty at Edinburgh, he devoted himself to the task of correlating the teaching of biology with the teaching of anatomy, pathology, bacteriology, and practical medicine. He saw the same fundamental principles in them all and, in the end, persuaded several of his colleagues to try the experiment of parallel teaching of the various subjects from the different standpoints. This, of course, was not entirely possible under university conditions, but in some of the classes the system was established and the results were good. In his own teaching he put the greatest stress on securing for his students direct contact with the actualities. He would give them a problem in some morbid condition, placing before them the history of the case, the system of treatment, the morbid products from the post-mortem table, and require them to correlate all these into a coherent account of the problem as a whole. This kind of teaching was slow from the examination standpoint; but his students informed him again and again that the most fascinating part of their curriculum had been this "research method" of learning pathology. On one occasion a distinguished American medical man put to him the question how it was that the professors in the Scottish universities not only did research work but also taught, while in America research and teaching were looked on as two distinct lines. Lorrain Smith's reply was that in his own experience he found that constant work in research enabled him to enrich his teaching in a way otherwise impossible, and that he continued his research in order that he might teach better. He maintained that research kept the professor alive in his teaching and the teaching continually stimulated him to further research. This was certainly so in his own case and it is a principle not to be lost sight of. It is true that many of the Scottish schools and some of the best research in several departments have emerged from men who were also well occupied in the teaching of large classes.

A colleague writes: "In the journeys from London to Edinburgh, following the six monthly meetings of the Medical Council, Lorrain Smith and his friends usually discussed biology, its place in the curriculum, how this school, how that school were advancing along special lines, and how far it was possible to have the whole curriculum based on a thoroughly taught and thoroughly understood study of biological ideas. And biology he always used in the larger sense as including physiology. He was thoroughly against the bulkhead idea of separate subjects and he wished to see the whole curriculum developed as a system of biological ideas applied in the practice of medicine. A favourite maxim was 'Get to the ætiology and then your treatment will follow as a deduction.' Of the friends that knew him in his early philosophical days, this type of reasoning was very familiar and it was a joy to talk with him on those subjects.

"He was not a mere dreamer, although his mind never rested from the study of metaphysics and the larger principles of science. He was also a man of action. As dean of the faculty, he took particular pains to direct the individual life, and many a man owes his good grasp of medicine to Lorrain Smith's direction.

"Among his minor pieces of work was the experimental invention of eusol. The primary idea of this well-known antiseptic was to secure a powder that could be immediately sprinkled on a wound where the moisture would be enough to set free some antiseptic material. The active principles of eusol are chlorine and boracic acid. Later, the powder was supplemented by the solution and, with due attention to freshness, this solution has given excellent results. The name, it is understood, is simply the initials of Edinburgh University, linked to the syllable 'sol.'

"Lorrain Smith was a humanist in the widest sense. At Edinburgh he took his part in constructing the University Settlement and the School of Social Study, and he lent himself in various ways to the promotion of social movements. He also took a leading place in the movement for the reading of verse. His knowledge of ballad literature was extensive and his sensitiveness to literary form of every kind was exceptional. In culture and accomplishments he belonged rather to the old school that included Duncan, Abercromby, and John Brown. He thought of life in its greater relations. Among philosophers he counted as a technical philosopher; among scientific men he had proved his quality as an investigator, and, on the practical side, he showed a profound knowledge of sound teaching method and constructive administration."

Prof. Lorrain Smith was a son of the late Rev. Walter Smith, Half Morton, Dumfriesshire. He leaves a widow, one son, and four daughters.

MEDICINE AND THE LAW.

Negligence Action against Surgeon.

IMPORTANT observations as to the duties of a surgeon were made by Lord Justice Scrutton on April 20th in dismissing a surgeon's appeal against an adverse verdict of negligence. At Shrewsbury Assizes a special jury found that the surgeon had been negligent in leaving a swab or pack in the patient's body in the course of an operation; as the result the patient died and £1500 damages were awarded to the widow, £500 to a child, and £100 as special damages. The defence was a denial of the negligence and a reliance on the fact that it was the duty of a skilled nurse to count the swabs or packs as they were removed from the patient's body. The Medical Defence Union acted for the surgeon.

Lord Justice Scrutton does not say that the surgeon may not rely upon an assurance by a competent nurse that a tally has been kept of the swabs, that all the swabs have been removed, and that therefore he need himself make no further search. The Lord Justice merely points out that, if the surgeon received no such assurance, he cannot rely upon that defence. "In answer to the question put to them, the jury found that the evidence was to their minds not satisfactory that the doctor had received the necessary assurance." Lord Justice Scrutton appears to assume that, in the absence of such an assurance from a competent person, the surgeon is personally responsible. "It is clear that the only person who put the swabs in and selected the places where they were to be placed was the doctor. He alone knew where he had put them. . . When the operation was completed, it still remained for the doctor to take out the swabs which he had put in." Almost every jury would find that it was careless to leave a swab in the body. The Court of Appeal had only to consider whether the verdict was one at which the jury could reasonably have arrived, or on the other hand whether it was one which the Court could not uphold. In the Lord Justice's opinion the verdict was not one with which the Court could interfere. His colleagues concurred and the appeal was dismissed. It thus appears that, if the Court of Appeal is right, the duty of counting the swabs does not naturally fall on the skilled nurse but remains primarily the duty of the surgeon. The

surgeon may rely on a report from the skilled nurse that all swabs have been counted, that the tally is correct, and that, therefore, he need not himself make any further search. But he must, it seems, obtain this assurance and be able to prove definitely that it was given if he is to rely on it as a defence.

MEDICAL NEWS

University of London.

Forthcoming Lectures.—Three lectures on the Pharmacology and Therapeutics of Lead Colloids with particular reference to their use in the treatment of neoplasms will be given at King's College, Strand, at 5.30 P.M., on May 7th, 8th, and 11th by Dr. W. J. Dilling, professor of pharmacology in the University of Liverpool.—Dr. R. J. Lythgoe will give six lectures on Special Sense Physiology, at University College, Gower-street, at 5 P.M., on Thursdays, from May 7th to June 11th inclusive.

University of London Medical Graduates Society.

The annual London dinner of this society will be held on Tuesday, May 12th, at the Langham Hotel, Portland-place, W., at 7 for 7.30 P.M., with Sir John Rose Bradford, the President, in the chair. Medical graduates can obtain tickets from the secretaries of the society at 11, Chandos-street, Cavendish-square, W.1, before May 8th.

St. Marylebone General Dispensary.

The twenty-fifth anniversary of the opening of the infant welfare clinic will be celebrated at this dispensary on Wednesday, April 29th, at 5 P.M. (tea 4.30 P.M.). The speakers will include Miss Susan Lawrence, Parliamentary Secretary to the Ministry of Health, Dr. Eric Pritchard, Dr. Charles Porter, Mr. W. McAdam Eccles, F.R.C.S., and Dr. J. F. Halls Dally.

St. Mary's Hospital Institute of Pathology.

A course on pathological research in its relation to medicine will open at the Institute of Pathology and Therapeutic Research, St. Mary's Hospital, London, W., at 5 P.M., on May 5th, with a lecture by Sir Almroth Wright, F.R.S., principal of the Institute, on the Organisation and Methods of Medical Research. The course will continue at the same hour on Tuesday afternoons until June 23rd, and the lecturers will include Prof. John Mellanby, F.R.S. (Recent Work on Blood Coagulation); Colonel S. P. James, F.R.S. (the New Method of Studying Malaria); Dr. Bernard Hart (the Causation of Neurotic Disorders); and Dr. André Gratia, of Brussels (the Shwartzman Phenomenon). The lectures are open to members of the medical profession and medical students, without fee.

Congress of Military Medicine and Pharmacy.

The Sixth International Congress of Military Medicine and Surgery and Pharmacy meets at The Hague from June 15th to 20th under the presidency of Dr. J. C. Diehl, director-general of the Army Medical Services of the Netherlands. The principal subjects of discussion will be the recruitment and training of medical and pharmaceutical officers, the psychoneuroses of war, the preparation and conservation of medicine in tubes and their use by military medical services, the arrest of hæmorrhage on the battle-field and standards of material for this purpose, and the sequels of wounds of the teeth and lower jaw. A historical exhibition is being organised in connexion with the congress. The secretary-general is Jhr. R. Sandberg van Boelens, and the office is at 3, Surinamestraat, The Hague. Travel arrangements are in the hands of Thos. Cook and Son, Berkeley-street, Piccadilly, London, who will supply particulars of accommodation and facilities for the journey.

Congress of Radiology.

The Third International Congress of Radiology will take place in Paris from July 26th to 31st under the honorary presidency of Madame Curie and the executive presidency of Dr. Antoine Béclère. During the opening meeting Prof. G. Forssell (Sweden) will speak on the Social Struggle against Cancer. The four principal subjects of the congress and their introducers are the radiological examination of the mucosa of the digestive tract (Dr. Cole, U.S.A.); the pre- and post-operative treatment of cancer of the breast by radiation (recurrency and metastases excepted) (Dr. J. E. A. Lynham, England); the radiological examination of the urinary apparatus by excretion of opaque substances (Prof. F. Haenisch, Germany); and the radiotherapy of inflammatory diseases (Prof. E. Milani, Italy). More than 300 communications are announced and will be divided between sections devoted to radiodiagnosis, rontgen and curietherapy, radiophysics, radiobiology, electrology, and natural and artificial heliotherapy. Those attending the congress may visit various holiday and health resorts in France at reduced rates. Membership is open only to members of radiological societies and persons accepted by such societies. Full particulars may be had from the office of the congress at 122, rue la Boëtie, Paris VIIIe.

University of Birmingham.

The Withering lectures will be given by Sir Hubert Bond, H.M. Commissioner of the Board of Control, at the Medical Faculty Building, Edmund-street, on Wednesdays, May 13th and 27th, and June 10th, 17th, and 24th at 4 P.M. The title chosen is Some Correlations between General and Psychological Medicine.—The Ingleby lectures, on Maternal Disablement, will be delivered at the same hour and place on Thursdays, May 21st and June 4th, by Mr. W. Blair Bell, professor of obstetrics and gynæcology in the University of Liverpool.

Post-graduate Demonstrations will be given at the General Hospital, Birmingham, on Tuesdays, and at the Queen's Hospital on Fridays, at 3.30 to 5 P.M., starting on Tuesday, April 28th. Particulars may be had from the Clerk to the Clinical Board of the University, Edmund-street, Birmingham.

Post-graduate Course at Liverpool.

At the Liverpool and District Hospital for Diseases of the Heart there will be a post-graduate course in cardiology from May 4th to 15th from 3.30 to 5.30 P.M. each week-day except Saturday. The course is limited to 20 members and application should be made to Miss Lewis at the hospital.

Journées Médicales Coloniales.

In connexion with the International Colonial Exhibition in Paris this summer there will be a congress of colonial medicine from July 22nd to 30th, under the presidency of Prof. L. Tanon. The secretary-general is Dr. Boyé, 112, Boulevard Haussmann, Paris.

Annual Conference on Social Work.

The conference this year is organised by the Association of Hospital Almoners, and will be held at Bedford College, Regent's Park, during the week end, April 25th–27th. The main theme of the discussion will concern the development in social work since the beginning of the present century. The principal meeting on April 25th will be addressed by Prof. Carr-Saunders, when Sir Harold Morris, K.C., President of the Industrial Court, will be in the chair. Prof. Cyril Burt, D.Sc., will address a meeting on April 26th on the new methods of treating the "Difficult Child."

Medical Tour in Spain.

A third tour for medical men to the spas and climatic resorts in the north of Spain, to last ten days, is being arranged. The party will leave Santander about the middle of July for Covadonga, Pics de l'Europe, Cote Asturias, Coruña, Santiago de Compostela, Vigo, and other places. It is hoped that certain Portuguese stations may also be visited. The cost from Santander will be 1200 French francs. Further information may be had from Dr. Mariano Mañeru, Ronda del Condo Dunque 4, Madrid. The list will close on or before May 15th.

Royal Sussex County Hospital.

A new theatre block was opened at this hospital by Lord Moynihan on April 16th. Events during the past few years have shown the necessity for the new operating theatres; there were 3212 in-patients during 1930, and no fewer than 2535 operations in the then existing theatres. The total cost of the new block has been £15,500, towards which a grant of £5000 was received from the estate of Mr. Bernhard Baron.

Addressing a large gathering, Lord Moynihan declared that he did not share the opinions of those who were saying that the principle of voluntarism in connexion with hospitals was decrepit and moribund, out of tune with the times, and not fulfilling its obligations to the community. The voluntary system in this country, outside London, had an income of £1,250,000 more than its expenditure, and was adding not fewer than 1000 beds every year to the number of those already in use in hospitals. If a business firm was doing this the word moribund would hardly be suggested as appropriate. In his judgment the voluntary principle was not dead; it was still in its infancy. It did, however, require a much better organisation than it had ever yet received in the great majority of towns throughout the country. Having described the functions of hospitals as "the criminal investigation department, where the secrets of disease are searched out," Lord Moynihan proceeded to pay a warm tribute to both doctors and nurses, incidentally hoping that there would be more adequate remuneration for nurses and greater provision for their future. Speaking of the new theatre block, he said he had never seen anything better in any institution that he had visited in his life. Moreover, the whole spirit of the hospital was quite admirable. After being appointed a life governor of the hospital, Lord Moynihan accepted for the operating theatres fund a cheque for £55 10*s.* contributed by the nursing staff.

New Public Assistance Hospital at Bromsgrove.

Worcestershire County Council is about to erect a new hospital of 100 beds at Bromsgrove.

Paying Patients at Hendon.

A new block of buildings costing nearly £20,000 is to be added to Hendon cottage hospital for the provision of wards for paying patients.

Central London Ophthalmic Hospital.

The annual report states that a clinic for patients insured under the National Health Insurance Act has been started. Last year subscriptions increased, but endowment, equipment, and maintenance are causing the governors some anxiety. The average weekly cost of maintaining a patient was £2 14*s.* 7*d.*

Donations and Bequests.

By the will of the late Mr. W. Cameron of Kilmarnock, the Kilmarnock Infirmary will receive £10,000, the Royal Infirmary, Glasgow, the Royal Western Infirmary, Glasgow, and the Victoria Infirmary, Glasgow, £2000 each, the Cancer Hospital, Glasgow, £1000, and the Eye Infirmary and the Samaritan Hospital £500 each. After large sums to other charities half the residue of the property will go to the Kilmarnock Infirmary.

National Association for the Prevention of Tuberculosis.

The seventeenth annual meeting of this Association will be held at Margate from June 25th to 27th, with Sir Arthur Stanley in the chair. The subject of the conference is the protection of the child from tuberculosis, and on the first morning short introductory addresses will be given by Sir Robert Philip, Dr. Eugene L. Opie (U.S.A.), and Dr. Letitia Fairfield. At subsequent sessions the speakers will include Dr. Reginald Jewesbury, Dr. Nathan Raw, Dr. R. Stenhouse Williams, Prof. S. Lyle Cummins, Sir Henry Gauvain, Dr. T. R. Elliott, Dr. R. H. Crowley, Dr. Midgley Turner, and Dr. L. S. T. Burrell. Visits will be paid to many local institutions.

King Edward's Hospital Fund.

In aid of this fund a series of "Indictments" will be held at the London School of Economics, Houghton-street, Aldwych, W.C., at 5.30 P.M., on Tuesdays, from May 5th to June 16th. At the first Mr. St. John Ervine will defend himself against the charge of being unduly critical, the prosecutor being Lady Rhondda and the judge Mr. Theobald Mayhew. At the second, Father Ronald Knox will be charged with being "Torquemada" of the *Observer* and fraudulently concealing the fact, and at subsequent meetings Miss Megan Lloyd George will be accused of following in father's footsteps, Mr. Gilbert Frankau of defaming the modern young person, and "George A. Birmingham" of encouraging illiteracy. Tickets may be had from the secretary of the fund, 7, Wallbrook, E.C. 4, or at the doors.

Appointments

CADDY, ADRIAN, M.D. Lond., F.R.C.S. Eng., has been appointed Surgeon to the Royal Westminster Ophthalmic Hospital.

MANNERS, R., M.B., B.S. Durh., Hon. Physician to the Stockton and Thornaby Hospital.

The Ross-shire County Council have appointed Dr. DANIEL JOHNSTONE, Assistant Medical Officer of Health with school inspection duties, and Dr. FRANCIS SUTHERLAND, Assistant Medical Officer of Health.

London County Council: AVERY, J. C. H. (Miss), L.R.C.P., Lond., M.R.C.S., Assistant Medical Officer, St. Benedict's Hospital. PURVES, J. E., M.B., Ch.B.Edin., F.R.C.S. Eng., Senior Assistant Medical Officer, New End Hospital. WOOD, J. L. M., L.R.C.P. Lond., M.R.C.S., L.M.S.S.A., D.P.H., Assistant Medical Officer, New End Hospital. NIGHTINGALE, G. S., L.R.C.P. Lond., M.R.C.S., Assistant Medical Officer, Queen Mary's Hospital, Sidcup.

Certifying Surgeons under the Factory and Workshop Acts: ATKEY, P. J., L.R.C.P. Lond., M.R.C.S. (Woking); GROOME, W., M.B., C.M. Glasg. (Margate); PROUDFOOT, MARY E., M.B., Ch.B. St. And., and SAUNDERS-JACOB, E. VIRGINIA, Asst. Medical Officers, Woolwich Borough Council.

Vacancies

For further information refer to the advertisement columns.

Bangor, Caernarvonshire and Anglesey Infirmary.—Hon. Surg.
Bath, Royal United Hospital.—Asst. H.S. £120.
Birkenhead General Hospital.—H.P. £100.
Birmingham, Dudley-road, Hospital.—Jun. Asst. M.O.'s. Each at rate of £200.
Birmingham, Queen's Hospital.—Cas. H.S. £70.
Birmingham Royal Cripples Hospital.—H.S. At rate of £200.
Birmingham University, Faculty of Medicine.—Chair of Anatomy. £1100.
Bradford Royal Infirmary.—H.P. and H.S. Each £150.
Brighton, Royal Alexandra Hosp. for Sick Children.—H.P. £100.
Burnley, Victoria Hospital.—H.P. At rate of £150.
Burton-on-Trent, County Borough.—Deputy M.O.H. &c. £600.
Burton-on-Trent General Infirmary.—Sen. and Jun., H.S.'s £200 and £150 respectively.
Cardiff Royal Infirmary.—H.S. to Ophth. Dept. At rate of £75.
Central London Throat, Nose, and Ear Hospital, Gray's Inn-road, W.C.—Third Res. H.S. At rate of £75.
Charing Cross Hospital, Strand, W.C.—Clin. Asst. to Skin Dept.
Chelsea Hospital for Women, Arthur-street, S.W.—Surgeon.
Chesterfield and North Derbyshire Royal Hospital.—H.S.
Cheyne Hospital for Children, Cheyne-walk, Chelsea, S.W.—Hon. Surgeon for Diseases of the Throat, Nose, and Ear.
Derby, Derbyshire Royal Infirmary.—Hon. Asst. Physician.
Dumfries and Galloway Joint Sanatorium Board.—Asst. Med. Supt. £300.
Durham County Hospital.—H.S. £150.
Great Yarmouth General Hospital.—H.S. £140.
Grove Park Hospital, Lee, S.E.—Sen. Asst. M.O. £500.
Hampstead General and North-West London Hospital, Haverstock-hill, N.W.—Cas. M.O. At rate of £100.
Hospital for Epilepsy and Paralysis, Maida Vale, W.—Hon. Asst. Physician.
Hove Borough, &c.—M.O.H. £1000.
Hull Royal Infirmary.—H.S. to Ophthal. and Ear, Nose and Throat Depts. At rate of £150.
Ilford Isolation Hospital.—Temp. Res. M.O. £350.
Ilford, King George Hospital.—Two Hon. Anæsthetists. Each £50
Jersey General Hospital and Poor-law Infirmary.—Visiting Physician and Radiologist.
Leeds, Herzl Moser Hospital, Leopold-street.—R.M.O. £100.
Lincoln County Hospital.—Jun. H.S. At rate of £150.
Liverpool, City of.—M.O. £1800.
Liverpool, Eye and Ear Infirmary.—H.S. to Ophth. Dept. £100.
London Hospital, E.—Asst. Phys. to Children's Dept.
London University.—Studentship in Physiology. £100.
Macclesfield, Cheshire County Mental Hospital.—Asst. M.O. £350.
Macclesfield General Infirmary.—2nd H.S. At rate of £150.
Manchester Babies' Hospital, Burnage-lane, Levenshulme.—Jun. Res. M.O. At rate of £50.
Manchester Ear Hospital, Grosvenor-square, All Saints.—H.S. At rate of £150.
Manchester, Royal Children's Hospital, Pendlebury.—Res. Surg. O. At rate of £125.
Manchester, Royal Infirmary.—H.S. for Central Branch, Roby-street. At rate of £100.
Manchester, St. Mary's Hospital.—H.S. for Whitworth Park Hospital. At rate of £50.
Middlesex County Council.—District M.O. and Public Vaccinator for Parish of Harefield. £45.
Mildmay Mission Hospital, Austin-street, Bethnal Green, E.—Sen. Res. M.O., Asst. Cas. O. and Jun. Res. M.O. At rate of £140, £125, and £100 respectively.
Newcastle-upon-Tyne Education Committee.—Asst. School M.O. £500.
Newcastle-upon-Tyne, Hospital for Sick Children.—H.S. At rate of £100.
Northern Hospital, Winchmore-hill, N.—Asst. M.O. £350.
North-Western Fever Hospital, Lawn-road, Hampstead, N.W.—Two H.P.'s. Each at rate of £80.
Nottingham General Hospital.—H.S. At rate of £150.
Oldham, Royal Infirmary.—H.P. and Cas. O. Each at rate of £175.
Pendleton, Hope Hospital.—Asst. Res. M.O. At rate of £250.
Plymouth, South Devon and East Cornwall Hospital.—Res. Surg. O. and H.S. At rate of £150 and £100 respectively.
Queen's Hospital for Children, Hackney-road, E.—H.P. At rate of £100. Also Cas. O. At rate of £100.
Radium Institute, Riding House-street, W.—H.S. At rate of £150.
Reading, Royal Berkshire Hospital.—Cas. O. and Res. Anæsthetist. Each at rate of £150.
Rotherham Hospital.—H.P. £180. Cas. H.S. £150.
Royal Chest Hospital, City-road, E.C.—Res. M.O. Also H.P. at rate of £150 and £100 respectively.
Royal Eye Hospital, St. George's Circus, Southwark, S.E.—H.S. and Asst. H.S. At rate of £150 and £100 respectively.
Royal Free Hospital, Gray's Inn-road, W.C.—Sen. Res. M.O. £150. Also Asst. Surgeon and Asst. Surgeon to Ear, Nose, and Throat Dept.
Royal Waterloo Hospital for Children and Women, Waterloo-road, S.E.—Cas. O. for Out-patient Dept. £150.
St. Bartholomew's Hospital, E.C.—Asst. Physician-Accoucheur.
St. Helens Hospital.—H.S. £200.
St. John's Hospital, Lewisham, S.E.—Res.H.S. At rate of £100.
St. Leonards Hospital, Horton-street, N.—Asst. M.O. £350.
Samaritan, Free Hospital for Women, Marylebone-rd.—H.S. At rate of £100.
Scunthorpe and District War Memorial Hospital.—Second Res. Surgeon. £150.
Southport General Infirmary.—Jun. H.S. £100.
Stockport Infirmary.—H.P. £175.
Sunderland, Durham County and Sunderland Eye Infirmary.—Two H.S.'s. Each £350.
Swansea General and Eye Hospital.—Cas. O. £200.
Taunton, Taunton and Somerset Hospital.—H.P. £100.
Wallasey Victoria Central Hospital.—Jun. H.S. At rate of £100.
Walsall General Hospital.—H.S. At rate of £150.
Walsall Manor Hospital.—Jun. Res. Asst. M.O. £150.
Warrington Infirmary and Dispensary.—Anæsthetist. £150.
West Bromwich, Hallam Hospital.—Res. H.S. £250.
Western Ophthalmic Hospital, Marylebone-road, N.W.—Sen. Res. and Jun. Non-Res. H.S.'s. At rate of £150 and £100 respectively.
Wigan Infirmary.—H.S. At rate of £150.
Wrexham and East Denbighshire War Memorial Hospital.—Two Res. H.S.'s. Each at rate of £150.
York County Hospital.—H.S. £150.

The Chief Inspector of Factories announces a vacant appointment for a Certifying Factory Surgeon at Henley-in-Arden (Warwick).

NOTES, COMMENTS, AND ABSTRACTS

HOMER'S SURGEONS: MACHAON AND PODALIRIUS.

By S. Wood.

(*From the Library, Royal College of Surgeons of England.*)

PART II.*

Podalirius.

So far as we know, Podalirius, the younger son of Æsculapius, was also born at Tricca in Thessaly. References to his life and work are disappointingly few but there is something of romance by way of compensation, and he is of importance as being the ancestor, through Hypolochus, one of his sons, of the great Hippocrates. According to Arctinus [41] he was endowed with great precision of mind, with the power to recognise hidden diseases, and to cure chronic maladies. He it was who first perceived by his glittering eyes and depression of spirits the insanity of Ajax.

In the *Iliad* his name occurs twice only, while that of his brother, who was chiefly a surgeon, is mentioned 11 times. This circumstance may be explained by the fact that injuries sustained in battle would naturally come under the care of the surgeon rather than that of the physician. Quintus Smyrnæus [42] shows him as the possessor of a "kwick-kure" salve which healed wounds in a miraculous fashion:

> . . . . Then their bruises and their scars
> Did Podalirius tend with loving care
> First presses he out black humours, then his hands
> Deftly knit up the gashes, salves he laid,
> Thereover, given him by his sire of old,
> Such as had virtue in one day to heal
> The deadliest hurts, yea, seeming-cureless wounds.
> Straight was the smart assuaged, and healed the scars
> Upon their brows and 'neath their clustering hair.

Podalirius took an active part as medical man and warrior in the Trojan war and helped to sack the kingdom of Priam. On his return from the expedition his vessel was cast by a tempest upon the Isle of Scyros,† where he was washed up safe and sound. He wandered alone in the peninsula of Caria until he became the guest of a shepherd, who, as soon as he learnt that his visitor was skilled in medicine, conducted him to King Damethus, whose daughter Syrna had fallen from the top of a house and lay seriously injured. The young princess was unconscious and motionless and was already regarded by her friends as dead, but the clever Podalirius bled her from both arms and had the happiness of recalling her to life.[43] Damethus, full of gratitude, gave his daughter to Podalirius in marriage, together with the peninsula of Caria, or the Chersonese as a wedding gift. Differing from the majority of writers Gordon [44] ascribes the girl's trouble to the "falling sickness" and says that in marrying her Podalirius was among the first, if not the first, medical practitioner to be conquered by a fair and interesting patient.

A Chersonese is a tract of land which is an island except where it is joined to the main by a narrow neck of land. The king's gift to Podalirius, according to Le Clerc [45] was not the Achaian peninsula called Polaponnesus lying between the Aegean and Ionian Seas, but the Thracian‡ between the Propontis and the Euxine Seas.

In the Carian Chersonese he founded the town of Syrna and likewise another which he called Bybassus, the name of the shepherd who succoured him after his shipwreck.[46]

The First Venesection.

The operation by Podalirius on the princess is said to be the first example of venesection performed as a curative measure, but unfortunately it is not very authentic. Etienne de Byzance, who reported the incident in the fifth century or 1600 years after the operation took place, does not say whence he derived his information. There is no certain knowledge of the origin of venesection, although an ancient tradition of the Egyptians seems to indicate that it was of their invention.[47] We know that it was practised long before Hippocrates, for in various places he

Podalirius. (Reproduced from the title-page of John Woodall's "The Surgeon's Mate," London, 1639.)

speaks of it as a common operation in his time. Pliny,[48] in his usual manner, introduces a fable to account for the discovery of phlebotomy. "The hippopotamus," he says, "when too bulky by overfeeding goes to the reeds by the river and, choosing a stump that is very sharp, presses himself against it and wounds a vein in the thigh which is allowed to bleed till the body is relieved, after which the wound is covered with mud." Thus according to Pliny were the beneficial effects of bleeding first demonstrated to man, but the story cannot be credited by those who know the natural history of the animal.

Podalirius is said by Quintus Smyrnæus [49] to have cured Philoctetes of his lameness, and although the induction of the curative sleep appears to be more probably the work of the physician-brother, the successful treatment of this case is usually

* Part I. appeared last week.

† There is much confusion regarding the geography of Podalirius. The present day Isle of Scyros is far from Caria, where he met the shepherd. Pausanius (Lib. 3, Ch. 26, p. 449) says positively that Scyros was opposite the Carian peninsula, from which the island depends. Sprengel considers Scyros to be identical with Nisyros and this opinion is supported by the position of Bybassus, the town founded by Podalirius, which was situated on the Cnidian peninsula, the only substantial prolongation of land on the Carian coast to fulfil the description of a chersonese.

‡ Le Clerc here seems to be in error. The projection of land of which he speaks between the sea of Marmora and the Black Sea has not the shape of a chersonese; moreover, it is on an opposite course from that which Podalirius would take homeward to Thessaly, and it is improbable that this part of the country would come within the sovereignty of King Damethus. The Chersonese Thracia of antiquity is the present Gallipoli, and for Podalirius to be wrecked here it is necessary to assume that he was so unskilful a mariner as to begin his voyage from Troy in a tempest.

attributed to Machaon. Podalirius had several children, among them being the son Hypolochus from whom, as mentioned above, Hippocrates was descended. As is well known, the snake is frequently present in the early history of medicine and it is related that Alexander, an impostor, kept a very tame one, pretending it to be the son of Podalirius. Le Clerc [50] says this account is erroneous and that the quack called the snake Æsculapius and himself the son of Podalirius.

Apollodorus [50a] writes that when Troy had been laid waste Podalirius and others left their ships in Ilium and journeyed by land to Colophon, where they buried Calchas the diviner, one of their number, who died heart-broken through wrangling with a better diviner than himself whom he met in Mopsus.

His Death and Burial.

Lycophron asserts that Podalirius was assassinated on the coast of Ausonia in the country of the Dauni who afterwards worshipped his memory. These people bathed in the river Althenus and listened while resting on the skins of animals to the infallible oracles of the god of medicine. He had a shrine at the foot of Mount Drium in Daunia, and because of this Lycophron said that he was buried in Italy, and for so saying was severely taken to task by his learned but crabbed commentator Tzetzes [51] who roundly accused him of lying.

Strabo [52] says that the tomb of Podalirius may be seen a hundred stadia from the sea in the country of the Dauni, the capital of which, Luceria, existed at his time in the Capitanata at the bottom of the Gulf of Manfredonia, and he adds that the waters of the river Althenus, by virtue of the presence of the tomb, were a sovereign remedy for the diseases of cattle.

According to another story Podalirius went to Delphi and inquired of the oracle where he should dwell. He was told to take up his abode in that city in which, if the sky fell, he would suffer no harm. So he settled in a place in the Carian Chersonese, which was surrounded by mountains that might be expected to prop up the sky in case it were to fall. Yet another story, followed by Lycophron, is that he went to Apulia in Italy, where he died and was buried, and that his spirit gave oracles in dreams to such as slept on sheepskins laid on his tomb.[53]

His name is commemorated in science by being applied to one of the subdivisions of the natural order of plants, Papilionaceae—namely, the Podalyriæ.[54] Rees,[55] the Cyclopædist, is surprised that Podalyrius should have been given a botanical association, overlooking the fact that he was learned in the properties of drugs of "pain-assuaging" power, which were certainly infusions of herbs, and that on the death of his brother he was found by Nestor seeking amongst his herbs for a deadly substance to destroy himself.

Diodorus of Sicily in his account of the brothers says that they lived and worked together in perfect harmony and acquired such a reputation among their companions that they were exempt from fighting and the fatigues of warfare. However, they did not avail themselves of this privilege, for, as we have seen, they took a leading part in the attacks on the Trojans and appeared to treat surgical cases as incidents which cropped up amidst their "valorous deeds."

They are said by Apollodorus [56] to have been among the suitors for the hand of the beautiful Helen of Troy, which appears to have been the fate of any man who had the misfortune to gaze upon her supernatural charms. The courage of her suitors must have been of a high order to enable them to woo a being of whom Marlowe in his "Faustus" exclaims,

> "Oh! thou art fairer than the evening air
> Clad in the beauty of a thousand stars!"

Portraits of the Brothers.

In addition to the reproductions in this paper the subjects of these notes appear in portraiture as follows: Daremberg [57] reproduces a plate showing Machaon dressing Menelaus's wound, the position of which bears little relation to Homer's text. The scene is also figured in Plate XV of a Greek manuscript published by Cardinal Mai,[57] but the artist has placed the wound just above the knee, whereas it should be in the region of the flank. T. Cades [58] reproduces a pâte de verre representing the same incident. Figure 37 of Daremberg's plate is a side view of the wounded Machaon and Nestor who is lifting the cup to drink the liquor prepared for them by Hecamede. These two figures also appear on a terra-cotta in the Musée du Louvre and in the British Museum, and are illustrated in the historical works of Panofka [60] and Winckelmann.[61] In his book on antique monuments Millen [62] gives a picture of two faces in profile which are said to represent Podalirius and Machaon. On the first head is a soldier's casque, and on the second a physician's cap.

There is a portrait of Machaon in the Van Kaathoven Collection in the Surgeon-General's Office of the United States Army, and a curious small engraving of Machaon, partly cut away by a careless bookbinder, appears on the title-page of Brumfel's "Catalogus illustrium Medicorum," 1529, in the Royal College of Surgeons' Library. Cabanès [63] has an illustration of Machaon and Nestor reproduced from Inghirami [64] in whose work Machaon appears at the healing of Philoctetes, and dressing the wound of Menelaus. Pausanius says that the Messenians had in the temple of Æsculapius amongst many great curiosities a sort of family piece of painting whereon was Æsculapius, his mother, and his two sons Machaon and Podalirius, drawn by Omphalion.[65] Pausanius also refers to the tomb of Machaon at Gerenia, which was a sanctuary where the sick were made whole. The inhabitants named the sacred place Rhodus, and here stood an image of Machaon in bronze, on the head of which was a wreath called in the local dialect "kiphos."

REFERENCES.

41. Arctinus, Aethiopis: See Puschmann's History of Medical Education, p. 35.
42. Quintus Smyrnæus: Fall of Troy, Bk. 4.
43. Renouard: Histoire de la Médecine, vol. i., 1846.
44. Gordon: Medical Mirror, 1868, v., 405.
45. Le Clerc: History of Physick, 1699, p. 65.
46. Dunglison: History of Medicine, Phila., 1872.
47. Eloy: Dict. historique de la Médecine, vol. iii., Mons, 1778.
48. Pliny: Natural History, Bk. 7, Ch. 40, Bostock and Riley Edit.
49. Quintus Smyrnæus: Fall of Troy, Bk. 9.
50. Le Clerc: History of Physick, London, 1699, p. 80.
50a. Apollodorus: Frazer's translation, ii., 243.
51. Tzetzes: Schol. on Lycophron.
52. Strabo: Geographica, Bk. 6, Cap. 3.
53. Pausanias: Laconia, Ch. 26.
54. Le Maout and Decaisne: General System of Botany, 1873, p. 371.
55. Rees: The Cyclopædia, vol. xxvii., 1819.
56. Apollodorus: Frazer's translation, ii., 27.
57. Daremberg: La Médecine dans Homère, 1865, Figure 4.
58. Mai: Homeri Iliados picturæ antiquæ ex cod. mediol., Rome, 1835.
59. Cades: Impronte gemmarie, Cent. V., No. 37, in the Bull. de l'Instit., Archeolog., 1839.
60. Panofka: Bilder antiken Lebens, Pl. 7, Figure 3.
61. Winckelmann: Monumens inedits de l'Antiquite, 1808, iii., 127.
62. Millen: Monumens Antiques, 1802–6, vol. ii., pl. 30.
63. Cabanès: Chirurgiens et Blessés a travers l'Histoire, 1925.
64. Inghirami, Galleria Omerica, vol. i., pl. 50 and 65; vol. ii., pl. 117.
65. Le Clerc: History of Physick, p. 83.

ASSOCIATION OF MATERNITY AND CHILD WELFARE CENTRES.

THE slight alteration in title of the society known since its foundation in 1911 as the Association of Infant Welfare and Maternity Centres is part of a new constitution rendered necessary by reorganisation of the Association's work consequent on the voluntary liquidation of the National League for Health, Maternity and Child Welfare, and adopted at last year's annual meeting. The report for 1930 records the affiliation of 28 new centres, including one in Rhodesia and some in India, and speaks of lively activity in the employment bureau, where 904 applicants were registered as compared with 689 in the

previous year. The publications department was slightly less busy than in 1929, though its sales again numbered over 300,000 and proved a useful source of income. Two of the Association's most humane activities are the conduct of the Tired Mothers' Holiday Fund and of the Babies' Homes Department. During the year 25 mothers were helped to go for holidays, a grant up to £3 being made where a mother can arrange to be away for a fortnight, either going alone or taking one child. The John Madocks home for babies at Basing and the Arkley home for toddlers at High Barnet were constantly in demand, and many children had to be refused for lack of accommodation. Both these homes, as well as the babies' hotel at Clapham Park, act as training schools for nursery nurses, and the Association also helps in the administration of the Creagh Nursery Training School, which has established a high reputation for the standard of nurses sent out. In collaboration with the National Council for Maternity and Child Welfare statistics and other material were collected for the maternity and child welfare section of the museum of the London School of Hygiene and Tropical Medicine. The record is one of many-sided usefulness cramped by financial anxiety.

THE INSTITUTE OF RAY THERAPY.

THE Camden-road Institute was officially opened on March 13th of last year, and its first annual report shows that it is filling a real need. It has been open from 2 to 9 P.M. every weekday, except for a period of redecoration in December, and already 1450 patients have been seen, the average of new patients being 128 every month. The total number of attendances is over 40,000, as each patient receives on an average 27 treatments. The industrial depression of this winter reduced the number, as many patients were unable to afford even their fares and left their course of treatment incomplete. The Institute has paid its way on current expenditure, with the help of a number of approved societies and business firms; a canteen for patients, opened in May, has been self-supporting. An appeal for subscriptions and donations will, however, be necessary in the near future in order to pay off the capital expended. Patients are only received on a letter from their medical practitioner. The chief affections treated have been rheumatic and nervous conditions, debility, asthma, bronchitis, skin diseases, and children's ailments, but the numbers are not considered to be sufficient for the publication of statistical results. Of the 574 patients discharged by the medical director, 83·6 per cent. were fit or much improved, while 16·4 per cent. showed no signs of improvement. The patients include old-age pensioners, workers at an immense variety of trades, and children, for whom special arrangements have been made for treatment outside school hours. The Institute has been recognised by the Society of Apothecaries as a training centre in therapy for the biophysical assistants' examination.

DISEASE IN THE PRE-SCHOOL YEARS.

AT a meeting of the Society of Medical Officers of Health on April 17th, at which Prof H. Kerr (Newcastle-on-Tyne) took the chair, Dr. Ethel Cassie showed a chart, drawn up from her observation of cases in Birmingham, which recorded the incidence of such conditions as rickets, otorrhœa, enlarged tonsils, lung infections, and many others, in children grouped according to age, from 18 months to 5 years. With many of these conditions, notably with enlarged tonsils, defective teeth, orthopædic defects, lung infections other than chronic bronchitis, defective hearing, and squint, the percentage incidence rises steadily in the increasing age-groups, reaching a maximum between 4 and 5 years. With defective teeth the rise is from 2·3 per cent. in children under 2, to 52·3 per cent. in children between 4 and 5. Dr. Cassie emphasised the need for the education of parents in the better training and management of children during the early years, education which she believes should be given at the child welfare centres; she appears to be able to secure the attendance of the child up to school age at Birmingham, but neither she nor Dr. G. C. M. M'Gonigle (Stockton-on-Tees), who spoke after her, outlined a constructive scheme by which the pre-school child could receive regular medical supervision all over the country. Dr. M'Gonigle attacked another aspect of the problem; he pointed out that it was at present exceptional to find a physically perfect child of 5, a fact which indicated some radical fault in the nurture of young children. In his opinion the initial error is far more often nutritional than environmental; the frequency with which the diet of the expectant mother and the young child is deficient in vitamin content, especially A and D, is responsible, he considers, for the high incidence of dental disease, and he advocates the administration of cod-liver oil to pregnant women as a routine.

In this view he is opposed by Dr. Sim Wallace (London) who quoted the high incidence of dental disease in Hawaii, where sunshine is abundant and rickets said to be rare. Dr. R. M. F. Picken (Cardiff) considers that any scheme which is to include the care of the child between 1 and 5 should make it possible for the same doctor to attend him from infancy to the end of school life, an arrangement which calls for some ingenuity in the organiser, but which both he and Dr. Agnes Nicoll (Willesden) have attempted. The difficulty is to persuade the parents to bring their children to the clinics once they have passed the dangers of infancy; Dr. John Macmillan (Woolwich) has managed to secure the attendance of a certain number by sending the health visitor round on the day before the clinic to obtain promises of attendance. At first out of 30 promises, 7 mothers would attend, but now, after eight months, it is common to secure 20 attendances from 24 acceptances, which suggests that the mothers are as educable in the care of their pre-school children as they were in the care of infants when the welfare centres were first started. Dr. E. H. T. Nash (Hounslow) believes that the best way to provide supervision for these children is to extend the nursery school system, under which they will receive not only medical attention, but adequate nurture, and such psychological training and guidance as is now regarded as essential in the early years.

OPERATIVE TREATMENT OF PILES.

REFERRING to an annotation on his modified clamp-and-cautery method of treating piles (THE LANCET, March 14th, p. 598), Dr. David Warshaw (Albany, N.Y.) writes: "One important point seems to have been misunderstood by your abstract editor—namely, his criticism that there is no assurance of protection of the deeper tissues against injury by the technique I described. Careful perusal of the article will reveal the fact that monopolar current is used. This current cannot penetrate beyond the clamp, as the clamp itself takes up any excess current which the operator may use."

We regret having given a wrong impression of Dr. Warshaw's method. The mistake arose from a misreading of the word diathermy. In this country all diathermy machines produce a bipolar current which has considerable penetrating powers. It appears that the machine which Dr. Warshaw employs is monopolar and produces a local spark with no power to penetrate the tissues. In this country "high-frequency" rather than "diathermy" would be the term used in describing the method.

NASAL DISINFECTION.

Dr. William Stanwell (New Milton, Hants) suggests the disinfection of contacts and carriers of cerebro-spinal fever by a method he has found useful in dealing with whooping-cough. An ointment is made by melting together vaseline, 1 lb.; menthol, 2 drachms; medical izal, 4 drachms. Two drachms of this ointment are packed with a spatula into the nostrils of a recumbent patient whose head is thrown well back, and who remains in this position until

the ointment has melted and reached every part of the nasal cavity. This treatment he has found to cut short an attack of whooping-cough and to do away almost entirely with the violent paroxysms of cough.

NEW PREPARATIONS.

ABRODIL (Bayer Products, Ltd., 19, St. Dunstan's-hill, London, E.C.) has already been described in the columns of THE LANCET in reviewing a paper on excretion urography by Drs. H. Bronner and J. Schueller, of Cologne. It is the sodium salt of monoiodo-methane-sulphonic acid. After intravenous injection of large doses no inorganic iodine is found in the urine of rats, cats, and dogs, and this shows that it is excreted by the kidneys without the splitting off of iodine. It is also strongly diuretic. The diuresis is mainly in the first half hour, and the best pictures for the purposes of pyelography are therefore obtained during that period, the ideal time being usually 15 to 20 minutes after injection. Drs. Bronner and Schueller have tested abrodil as a medium for retrograde pyelography, and recommend for this purpose a 15 to 20 per cent. solution. The fact that abrodil is compatible with oxycyanide of mercury allows of its being used in conjunction with this antiseptic. The danger of sepsis is thereby diminished, and the surgeon is relieved of one of the anxieties uppermost in his mind when undertaking retrograde pyelography.

SOMNOSAL (Messrs. H. R. Napp, Ltd., 3 and 4, Clement's-inn, London, W.C.) is a combination of a brom-iso-valerianyl urea (grs. 5) with dimethylamido-phenyldimethyl-iso-pyrazolon (grs. 2·5). The preparation dissolves in alcohol and the usual solvents but is only partly soluble in water. It is put on the market as a trustworthy sedative of negligible toxicity, whose employment is unaccompanied by secondary symptoms or habit forming. A considerable amount of medical evidence is adduced of the utility of the preparation, which is free from barbiturates and opiates.

From the same firm we have received a sample of ANOTAL, a combination of phenyl-cinchoninic acid and ethyl-urethane. The manufacturers claim satisfactory results for the new preparation in the treatment of rheumatism, gout, and local inflammations, the analgesic action being rapid, while medical evidence is adduced that it is well tolerated by patients who suffer from no gastric disturbance or cardiac depression if the suggested dosage is observed. Anotal is put up in phials of 30 tablets, and in bottles of 300, the dosage being one or two tablets, to be taken in cold water thrice daily, according to medical direction.

Medical Diary

Information to be included in this column should reach us in proper form on Tuesday, and cannot appear if it reaches us later than the first post on Wednesday morning.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

MONDAY, April 27th.—8 P.M., ODONTOLOGY. Paper. Mr. Wilson Charles: Full Denture Prosthesis. 5 P.M., MEDICINE. Short Papers: Dr. W. S. C. Copeman: Treatment of Chronic Arthritis by Blood Transfusion. Dr. Donald Hall: Two Unusual Electrocardiograms. Dr. Donald Hunter: Hæmatogenous Myelomatosis. Dr. M. Schwartzman: Skeletal Muscular Extract in the Treatment of Vascular Diseases. Dr. D. C. Wilson: Osteomalacia with Cinematographic film.

FRIDAY, May 1st.—10.30 A.M., OTOLOGY (Cases at 9.30 A.M.). Annual General Meeting. Papers. Dr. Schmaltz (Germany): The Physical Phenomena Occurring in the Semicircular Canals during Rotatory and Thermic Stimulation. Dr. H. W. Barber: Eruptions Involving the External Auditory Meatus. Discussion: Non-malignant Diseases of the External Ear and Auditory Meatus. Cases and specimens will be shown. 5 P.M., LARYNGOLOGY (Cases at 4 P.M.). Annual General Meeting. Communication. Prof. Georges Portmann: A Big Tumour of the Deep Regions of the Face removed by Operation with Cure. Discussion: Obstruction at the Upper End of the Œsophagus (excluding Pharyngeal Diverticula). Openers: Dr. A. Brown Kelly and Dr. D. R. Paterson. 8.30 P.M., ANÆSTHETICS. Annual General Meeting. Election of Officers and Council. A Clinical Evening will follow.

EUGENICS SOCIETY.

TUESDAY, April 28th.—5.30 P.M. (at the Rooms of the Linnean Society, Burlington House, London, W.), Dr. A. J. Lewis: Genetic Problems in Psychiatry.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

FRIDAY, May 1st.—8.30 P.M. (at West London Hospital Hammersmith): Discussion on Cholecystitis. (Opener, Dr. Maurice Shaw.)

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION, 1, Wimpole-street, W.

MONDAY, April 27th, to SATURDAY, May 2nd.—HOSPITAL FOR SICK CHILDREN, Great Ormond-street, W.C. Special post-graduate course in Diseases of Children, occupying mornings only with lectures, demonstrations, and operations.—INFANTS HOSPITAL, Vincent-square, S.W.—Special afternoon course in diseases of infants. Demonstrations, lectures, and special visits.—MAUDSLEY HOSPITAL, Denmark-hill, S.E. An afternoon course of lectures in Psychological Medicine. Clinical instruction in the Hospital.—CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL, Gray's Inn-road, W.C. All-day Course in Diseases of the Ear, Nose, and Throat, lectures, demonstrations, &c.—Further particulars from the Fellowship of Medicine.

UNIVERSITY COLLEGE HOSPITAL MEDICAL SCHOOL, University-street, Gower-street, W.C.

WEDNESDAY, April 29th, and the following THURSDAY and FRIDAY.—5.30 P.M., Prof. Otfrid Förster (Univ. of Breslau): Neurology.

LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE, Keppel-street, Gower-street, W.C.

TUESDAY, April 28th, and following WEDNESDAY, THURSDAY, and FRIDAY.—5 P.M., Prof. F. A. E. Crew: Laws of Inheritance.

HAMPSTEAD GENERAL AND NORTH-WEST LONDON HOSPITAL.

WEDNESDAY, April 29th.—4 P.M., Dr. Hubert Oddy: Treatment of Gastric Ulcer.

MANCHESTER ROYAL INFIRMARY POST-GRADUATE COURSE.

TUESDAY, April 28th.—4.15 P.M., Mr. J. P. Buckley: Some Problems of Early Diagnosis.

FRIDAY, May 1st.—4.15 P.M., Mr. P. R. Wrigley: Demonstration of Surgical Cases.

MANCHESTER VICTORIA MEMORIAL JEWISH HOSPITAL, Elizabeth-street, Manchester.

WEDNESDAY, April 29th.—4.30 P.M., Dr. W. Brockbank: The Medical Treatment of Asthma.

UNIVERSITY OF BIRMINGHAM.

TUESDAY, April 28th.—3.30 P.M. (at the General Hospital), Mr. S. Barling: Demonstration of Surgical Cases.

Births, Marriages, and Deaths

BIRTHS.

DE BARGUE HUBERT.—On April 18th, at Grosvenor-road, S.W., the wife of Dr. W. de Bargue Hubert, of a daughter.

MARRIAGES.

AITKEN—WEST.—On April 14th, at Macduff, Banffshire, Alan Boultbee Aitken, of Creigiau, Cardiff, to Dr. Gladys Mary West.

FAIRLEY—ROSSER.—On April 17th, at Saint Augustine's-road, Edgbaston, James Fairley, B.Ch. Camb., to Margaret C. Rosser, M.B., Ch.B.

HOBBES—CAMERON.—On April 16th, at St. Mary's, Selly Oak, Theodore H. Hobbes, M.B., B.S., to Janet Seaton Cameron, M.B., Ch.B.

DEATHS.

ACLAND.—On April 16th, at Bryanston-square, London, W., Theodore Dyke Acland, M.D. Oxf., F.R.C.P., aged 79.

CHRISTIE.—On April 14th, 1931, at 1, Albyn-terrace, Aberdeen, John F. Christie, M.A., M.B., C.M., F.R.C.P.E.

DEAN.—On April 14th, at Abinger-road, Bedford Park, Henry Percy Dean, F.R.C.S., M.S., M.B., B.Sc., aged 66.

HARRIS.—On April 16th, Major-General G. F. A. Harris, C.S.I., M.D., F.R.C.P., I.M.S., in his 76th year.

SMITH.—On April 18th, at Cobden-crescent, Edinburgh, James Lorrain Smith, F.R.S., Professor of Pathology, University of Edinburgh.

N.B.—A fee of 7s. 6d. is charged for the insertion of Notices of Births, Marriages, and Deaths.

HARROW HOSPITAL.—Last year each in-patient cost an average of £3 5*s*. 9*d*. per week, as against £2 12*s*. in the preceding year. The average total costs of each patient—£7 10*s*.—includes 844 out-patients. The hospital was closed for six weeks last summer for alterations necessitated by the extension schemes.